

FOUNDED IN 1850

RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

OCTOBER 28, 1950



PASSENGER
PROGRESS
NUMBER

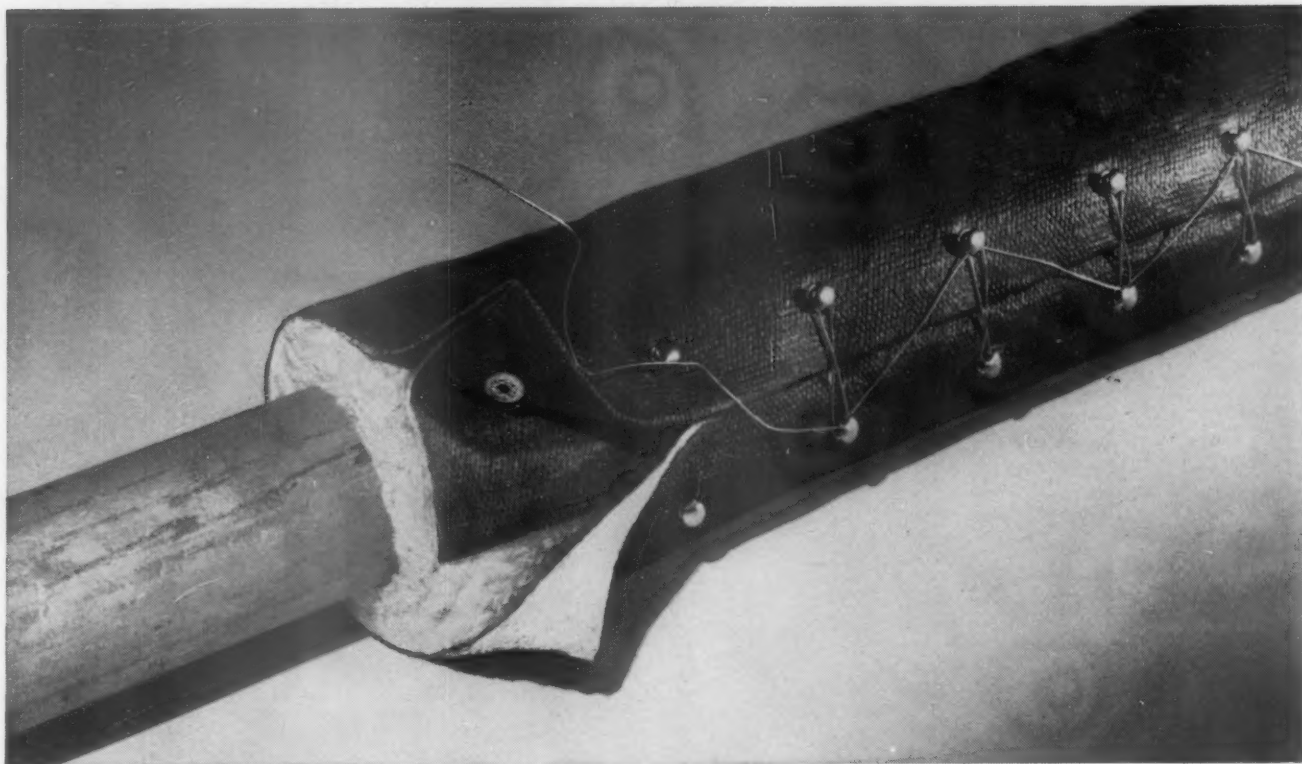
The Seaboard Air Line Railroad credits Diesel power with being an important factor in substantially improving earnings for the first six months of 1950. First railroad in the South to adopt Diesels for mainline service, the Seaboard installed its first General Motors locomotive in 1938 and today operates a fleet of 147 GM units which have accumulated well over one hundred million miles in all classes of service.

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS • LA GRANGE, ILLINOIS
HOME OF THE DIESEL LOCOMOTIVE
In Canada: GENERAL MOTORS DIESEL LTD., LONDON, ONTARIO



Keeps the heat where you want it...



THERMO-WRAP

An improved Pipe Insulation designed to give maximum protection to heating lines throughout the length of the train

This new Johns-Manville insulation really keeps heat in its place—inside the car heating pipes where you want it!

Thermo-Wrap consists of an insulating blanket of twisted asbestos fibres held together by asbestos yarn and enclosed in a tough flame-proofed flexible jacket. This jacket is heavily coated over its entire surface with Neoprene to protect against abrasion and moisture.

LONG LASTING—Thermo-Wrap needs no extra casing, painting or coating. The jacket, with its heavy Neoprene coating, is weather and shock resistant.

FITS TIGHT—STAYS TIGHT—The twisted asbestos fibres that form the insulating medium of Thermo-Wrap fit snugly against the pipe. These

fibres are of such length and are twisted in such a manner that they will not loosen on the pipe because of vibration.

EASY TO INSTALL—Thermo-Wrap is designed so that it can be quickly and easily applied on straight and curved piping. Lacing hooks, properly spaced, facilitate installation and assure a lock-tight longitudinal joint. A double-type overlap at this joint provides complete closure and a permanent weather seal.

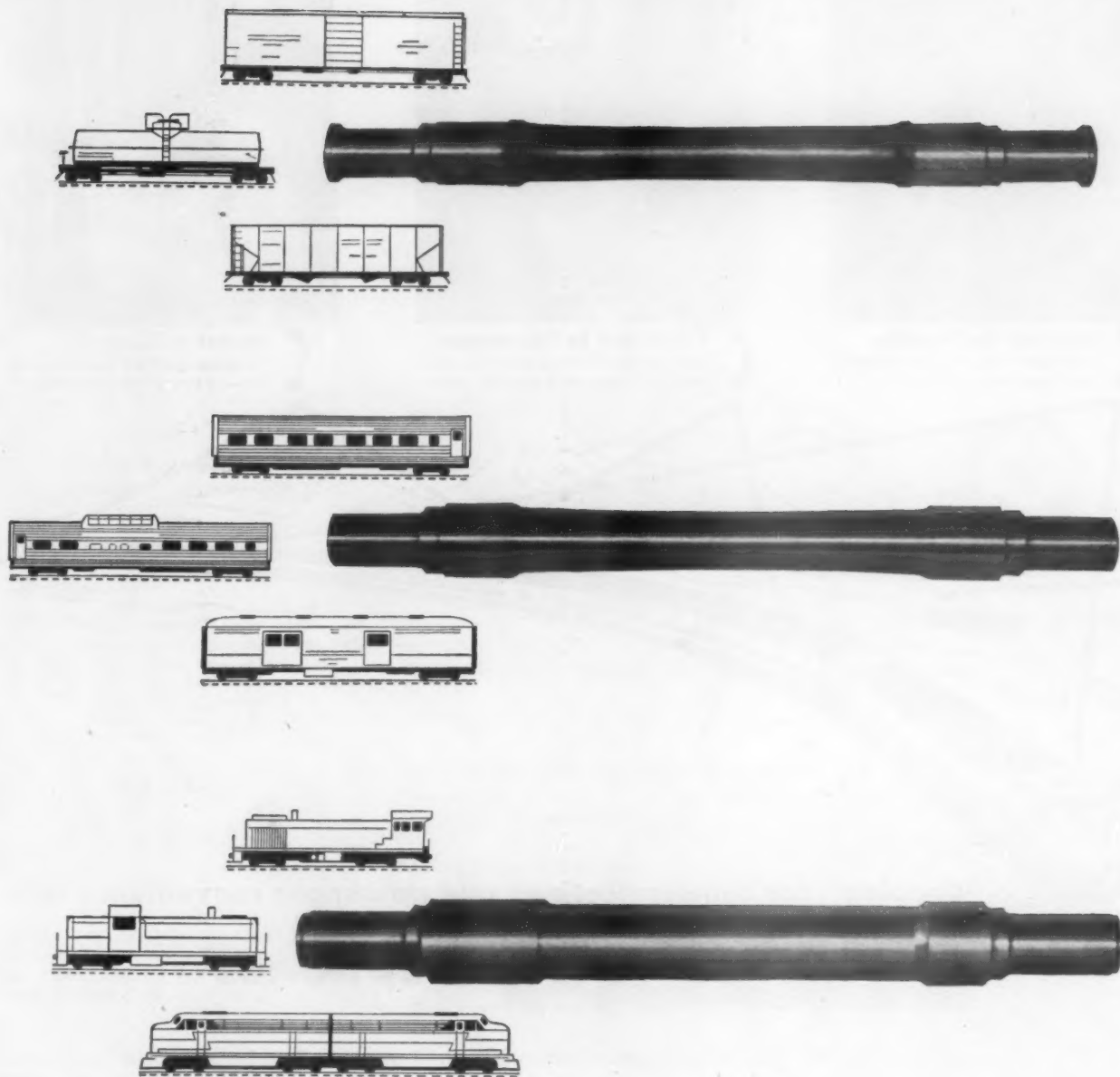
STANDARD SIZES AND FITTINGS—Thermo-Wrap is available in standard 36" sections, in thicknesses of 1", 1½" and 2" for standard and extra heavy pipe from ¾" up and for tubing from ⅝" up. Special insulation fittings are available for tees, 45° and 90° ells, and crossovers.

**For further information and samples
write Johns-Manville, Box 290, New York 16, N. Y.**



Johns-Manville 92 YEARS OF SERVICE TO TRANSPORTATION

Published weekly by Simmons-Boardman Publishing Corporation, Orange, Conn. Executive Offices, 30 Church Street, New York 7, N. Y. Entered as second class matter at Orange, Conn., under the act of March 3, 1879. Subscription price \$6.00 for one year, U. S. and Canada. Single copies, 50 cents each. Vol. 129, No. 18.



Bethlehem forged-steel axles have compiled many notable service records, and with good reason. They are made of the most carefully-selected steel by specialists with a high sense of responsibility . . . men who realize the vital importance of every small detail . . . men trained to make full use of the fine precision equipment at their disposal.

Specify Bethlehem axles for freight, passenger, and diesel service. You will find that your confidence in these products will be fully justified by the results obtained.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation



BETHLEHEM FORGED-STEEL AXLES

COMPANIONS TO BETHLEHEM WROUGHT-STEEL WHEELS

FREIGHT

PASSENGER

DIESEL



Engineer to Flagman
Telephone contact is important to safety and crew efficiency.



Conductor to Passengers
Public announcements may be made from any telephone in the train system.



Porter to Diner
Customer good will is won by service—via convenient telephones.



“Coupled” for communications and passenger convenience with Automatic Electric telephones

Modern passenger conveniences attract passengers! Add Automatic Electric Intra-Train Telephones, and these services become *more* convenient—more quickly accessible to the traveling public. Quickly, at passengers' request, porters can arrange for accommodations, order refreshments, or call for any other service desired by patrons. Conductors or other crew members can dial into a public address system for “paging” or transmission of announcements over the entire train. And, of course, quick communication increases operating efficiency and passenger safety.

Automatic Electric telephones can be placed where most convenient in any car. Calling is a

simple dial operation. System requires only a six-wire train line and stations may be connected together easily whether cars have 32-, 64-, or 110-volt d. c. power; the standard coupling receptacles are used.

For greater passenger convenience, include intra-train telephones when planning new trains . . . or modernizing older trains. We will supply complete engineering details for an installation to meet your specific needs. Write: AUTOMATIC ELECTRIC SALES CORPORATION, 1033 West Van Buren Street, Chicago 7, Illinois. In Canada: Automatic Electric (Canada) Limited, Toronto. *Offices in principal cities.*



**COMMUNICATION
and SIGNALING**
Products of

AUTOMATIC ELECTRIC

RAILWAY AGE

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Mark Office in Canada.



Published by
**SIMMONS-BOARDMAN
PUBLISHING CORPORATION**

The House of Transportation
and Building

Publisher of

Railway Age
Railway Engineering & Maintenance
Railway Mechanical & Electrical Engineer
Railway Signaling & Communications
Car Builders' Cyclopedia
Locomotive Cyclopedia
Railway Engineering &
Maintenance Cyclopedia
American Builder
Marine Engineering &
Shipping Review
Marine Catalog & Buyer's Directory
Books covering transportation
and building

Office of Publication, Orange, Conn. Editorial
and Executive Offices at 30 Church Street,
New York 7, N. Y., and 79 West Monroe
Street, Chicago 3, Ill.

Washington 4, D. C.: 1081 National Press
Building—Cleveland 13: Terminal Tower—
Seattle 1: 1914 Minor Avenue—Los Angeles
17: 816 West Fifth Street—Dallas 4: 2909
Maple Avenue.

Samuel O. Dunn, Chairman. James G. Lyne,
President. J. S. Crane, Vice-President and
Secretary. C. Miles Burpee, Harry H. Mel-
ville, C. W. Merriken, John R. Thompson,
R. E. Thayer, H. E. McCandless, Vice-
Presidents. Robert G. Lewis, Assistant to
President. Arthur J. McGinnis, Acting Treas-
urer. Ralph E. Westerman, Assistant Treas-
urer.

Subscriptions: including 52 regular weekly
issues, and special daily editions published
from time to time in New York or in places
other than New York, payable in advance
and postage free — United States, U. S.
possessions and Canada: 1 year, \$6.00; other
countries not including daily editions in
Western Hemisphere: 1 year, \$10.00; 2
years, \$16.00; other countries: 1 year, \$15.00;
2 years, \$25.00. Single copies, 50 cents each,
except special issues.

H. E. McCandless, Circulation Manager, 30
Church Street, New York 7.

PASSENGER PROGRESS ISSUE

EDITORIAL COMMENT:

Taking Stock of the Passenger Business 101

GENERAL ARTICLES:

The Editor Gets a Letter from an old Drummer 104

1900 and 1950—Passenger Service Then and Now 106

Fifty Years of Thoroughbreds 113

Selling Tools Are Better Now 138

It Happened in Galesburg, Ill., on a Wednesday in 1900 142

More Passengers—From Informed Ticket Agents, by C. L. Shortridge 144

They Don't Even Look the Same 146

781 Passenger-Train Cars Delivered This Year 150

Patrons in Khaki 152

Motive Power 1900-1950 154

Railroad Passenger Stations Keep Pace with Equipment 156

Safety Improved, Train Time Saved, by Modern Signaling 160

From Morse to Microwaves 162

Fifty Years of Pullman 164

DEPARTMENTS:

General News 167

Railway Officers 185

Current Publications 190

Railway Age is a member of Associated Business Papers
(A. B. P.) and Audit Bureau of Circulation (A. B. C.) and is
indexed by the Industrial Arts Index and by the Engineering
Index Service. Published each Saturday by the Simmons-Board-
man Publishing Corporation, Orange, Conn. Printed in U. S. A.

"UNION" SYSTEMS help you build and *HOLD* PASSENGER BUSINESS



Modern, luxurious trains are the show windows that attract passengers to your railroad—and modern "Union" Systems help you retain those passengers as "satisfied customers". By minimizing delays . . . preventing congestion . . . "Union" Centralized Traffic Control, Interlockings, Cab Signals and Inductive Train Communication systems make it easier to maintain schedules . . . materially assist in that all-important "on-time" performance.

Equally important, "Union" Systems help you reduce passenger operating costs by making it possible to run trains on fast schedules without resorting to excessive speeds . . . saving fuel . . . reducing equipment wear and tear. In addition, your passenger trains can operate with minimum interference to freight trains. Let "Union" engineers help you obtain maximum benefits from your present facilities—with modern signaling systems.

UNION SWITCH & SIGNAL COMPANY
SWISSVALE, PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

PASSENGER PROGRESS AT A GLANCE

FIFTY YEARS OF PROGRESS: This—the 1950 Passenger Progress issue of *Railway Age*—coincides by only a little more than two months with the midpoint of the Twentieth Century. The theme, therefore, and the emphasis, of this issue are not merely upon the events of the past year, but the progress and the achievements of the railroad industry in the transportation of passengers over a span of half a century.

1900-1950: That there has been progress—substantial progress—in railroad passenger service in 50 years there can be no doubt. True, passengers still travel in cars coupled together in trains running over steel rails laid on wooden ties. But the cars themselves—at least those used by the vast majority of all railroad passengers—embody structural improvements and comforts and conveniences never dreamed of in 1900. Motive power is better, operation is better, travel is safer. And the price of rail travel, in relation to the cost of other necessities and to the purchasing power of the dollar, is substantially less. “Railroads today”—to quote from the “drummer’s letter” on page 104—“are an utterly different animal . . . there’s a whale of a lot of progress in railroad passenger service in the last 50 years.”

“ONE PICTURE . . .”: One picture, it is said, is worth a thousand words. And it might take all of 96,000 words to tell as much of passenger progress as is shown by the 96 pictures in “Fifty Years of Thoroughbreds” (page 113). Compare, just for example, the “Nancy Hanks” of 1892 and her daughter of 1950. Or the “Pioneers”—or the “Golden States”—or the “Twentieth Centuries.” Such visual comparisons make it abundantly clear that there has, indeed, been “a whale of a lot of progress.”

SUM TOTAL OF LITTLE THINGS: Such progress as is revealed by the “Fifty Years of Thoroughbreds” has not come about overnight; it has at times seemed haltingly slow and tedious. Nor—save for such spectacular changes as air conditioning and Dieselization—has it resulted from any single development. Passenger progress has, rather, been the sum total of many changes—a few new cars in Maine or a new train in California; a new station in Ohio; a line revision in Missouri; C.T.C. in the Carolinas. Such changes are reviewed, in general, in the survey article on page 106, and, in greater detail, in illustrated feature articles on passenger cars (page 146), on motive power (page 154), on passenger stations (page 156), on the contribution of modern signaling to greater safety and faster schedules (page 160), on the part played by modern communications (page 162), and on the improved selling tools available for use in attracting passengers to the improved facilities and services which the railroads now offer (page 138).

FIFTY YEARS OF PULLMAN: That important adjunct of railroad passenger transportation—Pullman service—is the subject of special treatment in a separate article, be-

ginning on page 164, which traces both the extensive and intensive growth of that service over the past half-century.

FOR NATIONAL DEFENSE: In September, for the first time in many months, railroad passenger revenues were estimated to be larger than in the corresponding month of the preceding year. About 90 per cent of the military travel resulting from the country’s accelerated preparedness program is moving by rail. How much heavier will the load become? Can the railroads, with fewer coach seats and fewer sleeping car berths than they had during World War II, handle their share of the traffic? Time alone, of course, can supply the complete answer. But there are, as is pointed out in the article on page 152, many hopeful factors in the situation—new cars, for example, are in tip-top shape for hard service, and in good condition to meet the approval of their soldier passengers. There are good prospects of close cooperation from government—and there is the ability which the railroads have demonstrated time and time again to meet an emergency by moving far more traffic on rails than anyone could do on paper.

NEWS ROUND-UP: Pan-American Railway Congress will hold its next meeting (1953) in Washington, D.C.—Georgia willing to drop anti-trust complaint.—Trainmen, conductors to seek 35-cent hourly wage increases.—B. & O. orders 4,000 freight cars; Missouri Pacific receives authority to spend \$18 million on Diesels and coaches.—Western roads file views on uniform classification.—New Bulwinkle Act pact filed.

WHAT OF THE FUTURE? Passenger equipment and passenger service—like other railroad facilities—are most efficient when used to capacity. And such capacity use is essential if the railroads are to finance, during the next 50 years, progress and developments commensurate with those of the past 50. How to get such capacity use, in normal times from normal business and pleasure travelers, is the biggest problem facing railroad passenger men today. The answer is almost certainly complex and many-sided. One partial solution—and it sounds like a step in the right direction—is advanced on page 144 by C. L. Shortridge of the Missouri Pacific.

PROGRESS WILL CONTINUE: Certain it is that the railroads themselves want to continue the progress they have already made toward better and constantly better passenger service. But the extent to which they can do so—the rate of such progress—and the heights it may ultimately reach depend on factors over which the railroads have no direct control. Equality of legislative and regulatory treatment, as compared with competitive passenger carriers; an end to “featherbedding” labor practices which destroy jobs under pretense of protecting them; and proof of public demand for better service by acceptance and use of that already provided—those are the essentials of continued passenger progress.



*The passenger
traffic manager says:*

*I'm sold on passenger comfort . . .
because it means increased revenue . . .*



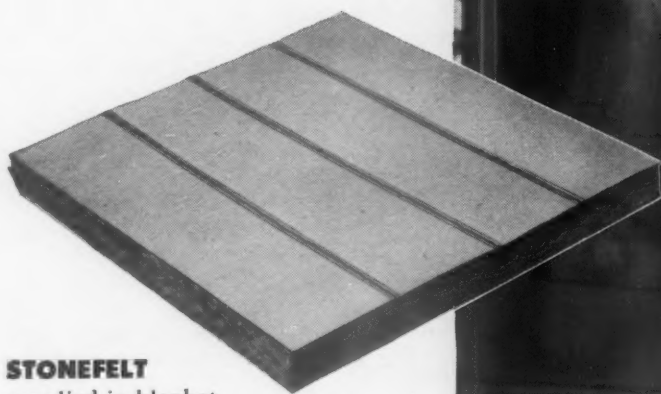
The car designer says:

*We design our cars for passenger comfort
—they're insulated against noise and weather . . .*



*The sleeping
car porter says:*

*They sleep like babies
in these quiet new cars . . .*



STONEFELT

supplied in blanket form, is easily applied within the car walls during construction. By effectively controlling temperature and muffling sound, this modern insulation helps assure the complete comfort so essential to profitable train operation.



Johns-Manville



The conductor says:

Customers go for these modern insulated cars—
everybody wants to ride in them . . .



*The
dining
car steward says:*

Good food is important—
but so are comfortable surroundings . . .

... they all say:

**—There's more sales appeal
than meets the eye . . . in cars
insulated with STONEFELT**



Yes . . . in the modern railroad car, there's everything for the passenger's comfort . . .

. . . Even down to the many things the passenger never sees that are built into the structure of a car.

Stonefelt, for example, that helps keep car temperatures constantly comfortable . . . that muffles external noises down to hardly audible whispers . . .

And for the car builder—and the railroad—there are also many very practical advantages in using Stonefelt.

It is specifically designed for passenger car use—and is extremely effective in reducing the cost of operating air-conditioning systems

in cars. It is fire-resistant, requires no maintenance, and will not settle or deteriorate once in place between the car walls.

Builders benefit by obtaining a time-tried product that is easily and economically applied to the car structure. Stonefelt can be supplied with a layer of reinforced asbestos paper, or flame-proofed muslin, or a combination of both, depending on service requirements.

Johns-Manville Engineers, specializing in passenger car insulation problems, will be glad to consult with you on your needs. For further details, please write Johns-Manville, Box 290, New York 16, N. Y. In Canada, write to 199 Bay Street, Toronto, Ontario.

STONEFELT INSULATION

FOR THE MODERN PASSENGER CAR

"Pine Tree" design by **Goodall Fabrics** created for Great Northern's "International"



The "International"—a crack Great Northern streamliner
with cars by American Car and Foundry Company.



This special "Pine Tree" pattern was created for the "International" by Goodall Fabrics in cooperation with the design staff of American Car and Foundry Company.

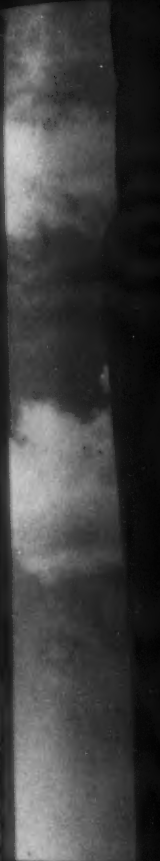
Where durability and luxury are the keynote — Goodall Fabrics are preferred

THE DESIGNERS of Goodall Fabrics are prepared to help you create a special pattern...symbolizing the close relationship between your road and the passengers it serves. And, in addition, Goodall Fabrics are *Blended-for-Performance*. The result is the perfect combination of different fibers, each chosen for its special qualities—durability, beauty, ease of cleaning. These explain the exceptional good looks and amazingly long wear of Goodall Fabrics...and their wide acceptance for railway transportation where long-range economy is as important as passenger approval.



© 1950, Goodall Fabrics, Inc. (Subsidiary, Goodall-Sanford, Inc.)

GOODALL FABRICS, INC. • NEW YORK • BOSTON • CHICAGO • DETROIT • SAN FRANCISCO • LOS ANGELES



TO C

When
servi
an en
in its
try's
stand
fort-
TH
up o



DEMONSTRATED SUPERIORITY!



on the MILWAUKEE ROAD..

"4800" pulls into Milwaukee station at head end of the Southwest Limited.

TOP RAILROADS REPORT:

Consolidation 4800 is "Outstanding Performer"

When the prototype of an all-new line of locomotives is put into service, and, from the start, lives up to its specifications—that is an engineering triumph. More important, when that locomotive, in its first weeks of on-the-rail life, hauls over eight of the country's top trains on scheduled runs—consistently showing new standards for everything from tracking qualities to tractive effort—that is real news in railroading.

That is the accomplishment of the Consolidation 4800. Made up of two compact (56'-6") units—each powered by a single

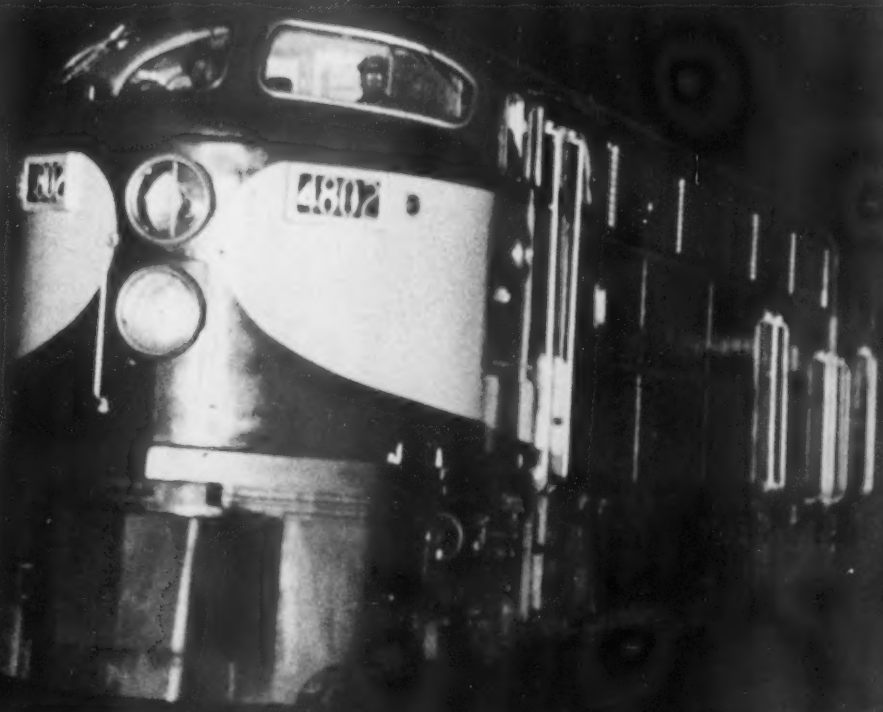
2400 hp. Opposed Piston diesel engine—it showed itself to be the finest in passenger motive power. Currently it is continuing to demonstrate its leadership on more of America's top railroads—both as a 4800 hp. locomotive as well as when used as two 2400 hp. locomotives.

Meantime, as more and more C Line locomotives made up of 1600, 2000 and 2400 hp. units, take to the rails, it is becoming amply evident that all Consolidations live up to the great standards set by "old 4800."

DEMONSTRATED

on the ROCK ISLAND

"4800" leaves with the "Golden State" for run to Dalhart, Texas, where, with 60-minute turn-around, it returned to Chicago with the "Imperial."



on the PENNSYLVANIA

Heading East out of Englewood with the "General" for a round trip with another "big name train."



FAIRBANKS-MORSE

SUPERIORITY!

CENTURY

arrives in the Chicago yards behind busy "4800."

on the NEW YORK CENTRAL

Passengers on three famous trains get a look at the newest in motive power.

RILEY: "4800" splits up to make many round trips with this train as single unit 2400 hp. locomotive.

COMMODORE: "4800" eastbound, starts second round trip with this deluxe consist.

on the LONG ISLAND: Commuters at Jamaica Station get a look at the newest thing in commuter train power — "4800" used as two efficient 2400 hp. locomotives.

OPPOSED PISTON DIESEL POWER

DEMONSTRATED SUPERIORITY!



on the **CANADIAN NATIONAL**

Operating in locomotive pool between Toronto and Montreal, "4800" shows Canada's biggest railroad the newest thing in motive power.



FAIRBANKS-MORSE,

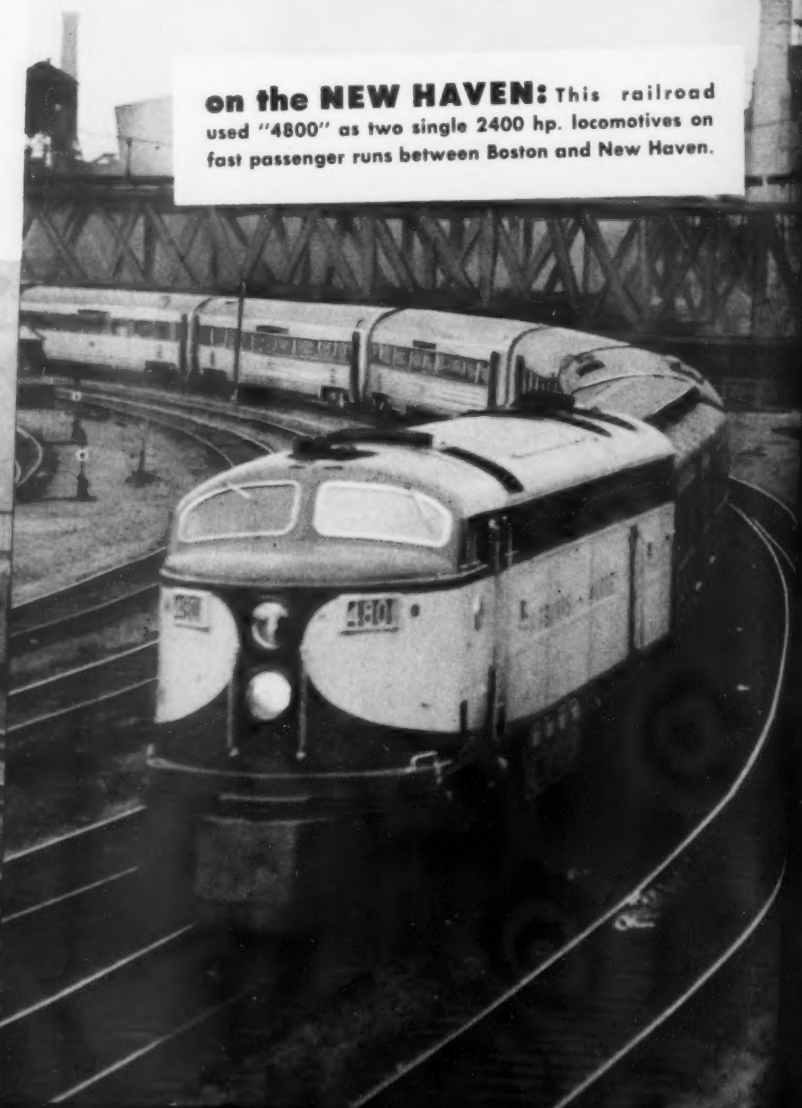
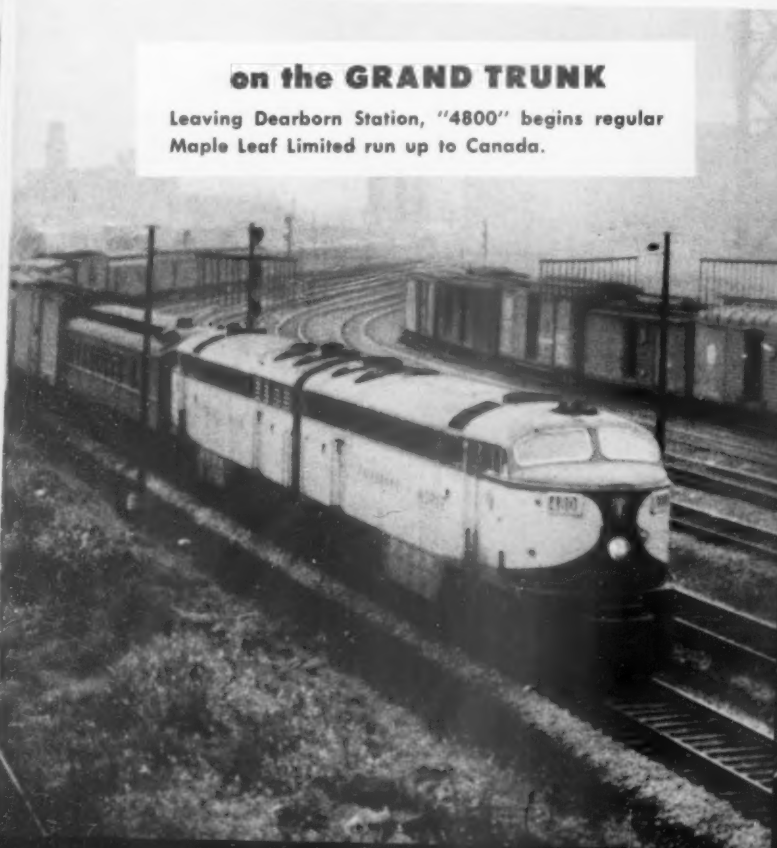
a name worth remembering

DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • PUMPS • SCALES
HOME WATER SERVICE AND HEATING EQUIPMENT • RAIL CARS • FARM MACHINERY

on the **GRAND TRUNK**

Leaving Dearborn Station, "4800" begins regular Maple Leaf Limited run up to Canada.

on the NEW HAVEN: This railroad used "4800" as two single 2400 hp. locomotives on fast passenger runs between Boston and New Haven.





read
as on
even.


For First-Time Facts about Passenger Car Braking

***DON'T MISS* "POWER TO STOP"**

***The new sound-color movie that takes
you along as brakes are being tested!***

● See the new A.S.F. Brake Service Laboratory—first on-track equipment designed for testing passenger brakes exclusively . . . watch breakaway tests being run . . . see comparative tests of clasp and off-the-wheel brakes in high-speed emergency stops.

**WE WILL BE PLEASED TO ARRANGE A SHOWING FOR YOU. WRITE: "POWER TO STOP,"
DEPT. A, AMERICAN STEEL FOUNDRIES, 410 N. MICHIGAN AVE., CHICAGO 11, ILL.**



SIMPLEX

UNIT CYLINDER CLASP BRAKES

**SAFE, SHORT, SURE STOPS—
IN EVERY KIND OF WEATHER**

TEXAS AND MISSOURI, KANSAS



**OBSERVATION SLEEPERS
TO
Oklahoma and Texas**

Nothing relieves the monotony of daylight travel quite as much
as the Observation Sleeper

Daily on "The Flyer"

TRACK TRAINS  **BEST IN THE
SOUTHWEST**

M. K. & T. R'y.

THIS IS THE LINE
That runs a Beautiful Parlor Car (seats free) from Hannibal to Chicago, Ill.

THIS IS THE LINE
That runs a Reclining Chair Car (seats free) between Sedalia, Mo., and St. Louis, Mo.

THIS IS THE LINE
That runs the only and finest Dining Car in the world, between Hannibal, Mo., and Chicago, Ill.

THIS IS THE LINE
That runs a Palace Sleeping Car between Dallas, Texas, and St. Louis, Mo.

THIS IS THE LINE
That runs BOTH a Day Express and a Night Express out of Texas, one train more than any other line out of Texas.

**PEOPLE PATRONIZE THE
Missouri, Kansas & Texas R'y**
BECAUSE IT IS LIBERAL AND BECAUSE IT RUNS THROUGH CARS AND GIVES THE PEOPLE SUPERIOR FACILITIES.

Our Illustrated Scrapbook, with maps, guide-book, time-tables and printed rates of fare, is free of five to all who send their address to
Texas Passenger Agent, M. K. & T. R'y, 204
Main Street, Dallas, Texas
JAS. D. BROWN
General Passenger Agent,
St. Louis, Mo.

"Everybody Takes It."



Check one over the
Western Bureau of
Travel at St. Louis.
The only
Bureau in Texas
through the Western
and Southern Territory

Things Have Changed Since These Ads Were Scheduled

Back in 1900, when a "Through ticket" was a novelty, and ads warned passengers to "Avoid the Omnibus," Katy service was a big hit with passengers bound to and from "The Indian Territory."

Today's travelers enjoy the result of fifty more years of constant passenger progress on the Katy—luxury, comfort, convenience and safety undreamed-of half a century ago.

& TEXAS

THE KATY FLYER!

Fast Train

TO THE

Indian Territory.

TEXAS,

**Mexico and Pacific Coast
RESORTS.**

Wagner Buffet Sleepers.

Free Katy Chair Cars.

ST. LOUIS, MO.

JAMES BARKER, Gen'l Passenger and Ticket Agent.



KNOW YE ALL!

That the M. & A. T. start their Trains from the Union Depot at Hannibal and
St. Louis, and arrive through the St. Louis Train at Hannibal and St. Louis,
run direct through to the Union Depot at Hannibal and St. Louis,
which runs through to the Union Depot at Hannibal and St. Louis,
ton, Texas.

There are also four Pullman Tourist Cars, which are comfortable and
the kind keep in mind the Union Depot at Hannibal and St. Louis,
the kind keep in mind the Union Depot at Hannibal and St. Louis,

A THROUGH TRAIN

It is frequently the case that the Union Depot at Hannibal and St. Louis,
is a frequent stop for the Union Depot at Hannibal and St. Louis,

A THROUGH TICKET

[illegible]

MISSOURI, KANSAS AND TEXAS RAILWAY

"THE FAVORITE."

[illegible]

Avoid the Omnibus.

Remember that when you reach St. Louis, you enter the Great French Railroad Depot, and that the M. & A. T. Railway starts its trains from this same Depot for Texas. Don't take any "Bass" or "Back" or anything of the kind, remain right in the Union Depot, and take the M. & A. T. Cars, via the charming Indian Territory.

JAS. D. W.

JAS. D. BROWN
General Physician

Fast, modern diesels, smooth-riding new cars, the miracle of radio control, world-famous diner meals are some of the many features Southwest passengers take for granted today on the Katy.

That's only the beginning.



How to Win



Friends and Influence **PASSENGERS**

...install



on new and remodeled coaches

When you plan your coach modernization and remodeling program, remember the one improvement that is *always* seen, *always* used, and *always* appreciated: NP Automatic End Door Operators.

They're one of the most obvious ways of establishing good public relations with your passengers. And their cost is but a small price to pay for the good-will they bring.

NP Automatic End Door Operators are available for swinging or sliding doors. Their compact mechanism takes up very little space. Because of their sturdy simplicity, a minimum of maintenance keeps them in perfect working order. They can be adjusted uniformly

throughout the train, for practically any operating cycle you prefer. They open automatically at the lightest touch, then close gently, quietly and safely. They cannot close while passengers are in the doorway.

They make your air-conditioning much more effective, and save considerably on its operating costs as well. Annoying drafts and noise from left-open doors are eliminated.

A good indication of public acceptance is the fact that NP Automatic End Door Operators are, in general, standard equipment on all new cars today. They will meet with the same public favor on your remodeled cars, too. For full details, write for Bulletin #1063.

NATIONAL PNEUMATIC CO., INC.

Graybar Building, New York • McCormick Building, Chicago • 125 Amory Street, Boston 19, Mass.

Represented in Canada by Railway & Power Engineering Corp., Ltd., Toronto

WORLD'S LARGEST MANUFACTURER OF DOOR CONTROL AND SAFETY EQUIPMENT

Specify

PYLE-NATIONAL

ELECTRICAL TRAINWIRE AND

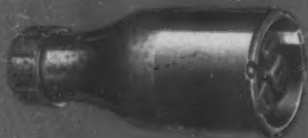
The Pyle-National company offers the most complete and versatile line of trainwire and stand-by plugs, receptacles, jumpers and service cable connectors . . . a wide choice of metal, molded high-impact phenolic or rubber construction, with exclusive maintenance-saving, safety, and damage-resistant features.

A. C. STAND-BY SERVICE CABLE CONNECTORS

FOR AIR CONDITIONING



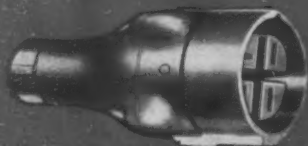
**ALL RUBBER PLUG
TYPE KYE-J**
Non-renewable contacts and
cable molded integrally to plug.



**PHENOLIC PLUG WITH
RUBBER FRONT SECTION
TYPE KEPD**
Renewable contacts.



**ALL PHENOLIC PLUG
TYPE KBPD**
Renewable contacts.



**ALL METAL PLUG
TYPE KYPD**
Renewable contacts.

With or without safety disconnect molded in cable. All type plugs furnished with safety circuit grounding clip. Female plugs illustrated. Male plugs also available in all types.



D. C. STAND-BY SERVICE CABLE CONNECTORS

FOR BATTERY CHARGING

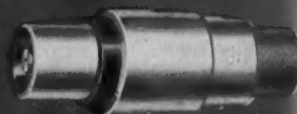
With or without safety disconnect molded in cable.



RUBBER PLUG, TYPE BCPE-J
Renewable contacts.



PHENOLIC PLUG, TYPE BCPO
Renewable contacts.



METAL PLUG, TYPE BCP
Renewable contacts.



HEADLIGHTS, - GYRALITES

GAUGE, CLASSIFICATION AND MARKER LIGHTS



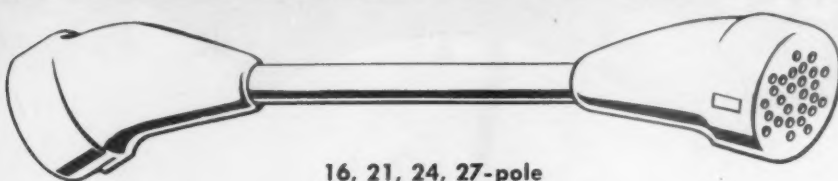
*An expanded and improved quality line
for every type of service*

D STAND-BY SERVICE CABLE CONNECTORS

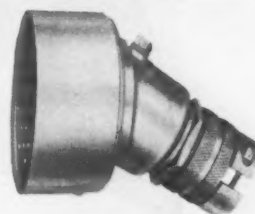
CONTROL JUMPERS FOR DIESEL LOCOMOTIVE UNITS



RUBBER PLUG, TYPE WWPEJ
With or without renewable front contact section as specified. Wire terminal section and cable molded integrally.

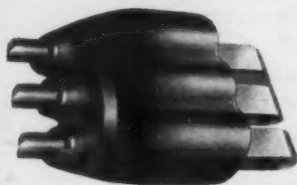


16, 21, 24, 27-pole

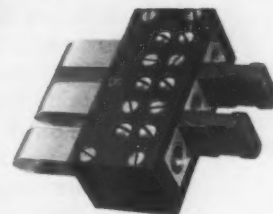


METAL PLUG, TYPE WWP
Molded bakelite contact units, interchangeable and reversible. With cable grip and clamp.

2 OR 3-POLE TRAINWIRE JUMPERS

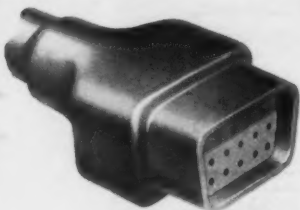


RUBBER PLUG, TYPE TLEP
Contacts and cable are molded integrally to plug.

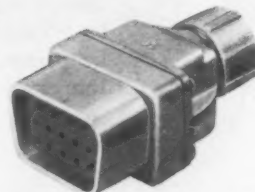


FIBER PLUG, TYPE TLP
Renewable contacts.

14-POLE TRAINWIRE JUMPERS FOR COMMUNICATION CIRCUITS

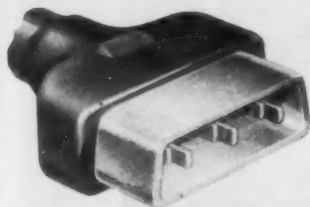


RUBBER PLUG, TYPE CVPEJ
Contacts and cable molded integrally to plug.

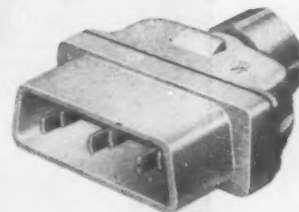
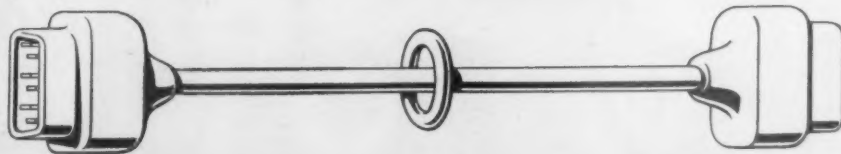


METAL PLUG, TYPE CVP
Contact units interchangeable, reversible. Rubber bushing cable grip.

6-POLE TRAINWIRE JUMPERS FOR ELECTRIC AIR BRAKE CIRCUITS



RUBBER PLUG, TYPE WVPEJ
Contacts and cable molded integrally to plug.



METAL PLUG, TYPE WVP
Contact units interchangeable. Rubber bushing cable grips.

THE PYLE-NATIONAL COMPANY

1356 NORTH KOSTNER AVENUE

CHICAGO 51, ILLINOIS

BRANCH OFFICES and AGENTS in the Principal Cities of the United States and Canada. EXPORT DEPARTMENT:
International Railways Supply Co., 30 Church St., New York. CANADIAN AGENT: The Holden Co., Ltd., Montreal.

TURBO-GENERATORS • FLOODLIGHTS • CONDUIT FITTINGS • MULTI-VENT LOW VELOCITY AIR DIFFUSION



When you need more space, you'll find Armco STEELOX Buildings provide it quickly and at low cost.

One reason is that the STEELOX Sections provide both structural support and finished surface. A small crew of unskilled workmen can erect the building in a matter of hours. Labor costs are low.

You'll also find that STEELOX Buildings are fire-resistant and require practically no maintenance. There is nothing to crack, warp or rot. About all they ever need is an occasional coat of paint. Even then, the ZINCGRIP-PAINT-GRIP Steel saves time and money because it can be painted immediately, and the paint lasts longer.

Armco STEELOX Buildings have all the advantages of any other permanent structure. Yet they can be quickly rearranged or dismantled and reassembled on a new site without loss of material. Even after several moves they remain rigid and weathertight. The patented joints can't open up or pull apart.

Try STEELOX construction the next time you need motor car garages, offices, bunk houses, and similar railroad structures. You'll save time and money. Write us for prices and complete information. Armco Drainage & Metal Products, Inc., 5190 Curtis St., Middletown, Ohio. Subsidiary of Armco Steel Corporation.

Export: The Armco International Corporation

ARMCO STEELOX BUILDINGS



1888-1950



FIRST FLORIDA TRAVEL

Since the inaugural run of the famed Florida Special, Coast Line consistently has carried more passengers to Florida than any other railroad serving the State.



TRAINS YOU KNOW

Agreement with Seaboard Effective December 11, 1949

- FLORIDA SPECIAL
- EAST COAST CHAMPION
- WEST COAST CHAMPION
- MIAMI
- VACATIONER
- HAVANA SPECIAL
- PALMETTO
- EVERGLADES

ATLANTIC
COAST LINE
RAILROAD

"the only" DOUBLE TRACK ROUTE BETWEEN THE EAST AND FLORIDA"
"SMOOTH-RI NEW ROADBED - STREAMLINED FOR STREAMLINERS!"

Get ASSURED DEPENDABILITY
in your car-lighting and air-conditioning



EXIDE-IRONCLAD BATTERIES

give you assurance of safe, positive,
economical service

With Exide-Ironclad Batteries in your
passenger cars, you can count on:

- **AMPLE POWER** for entire car-lighting and air-conditioning loads . . . uniform voltage at proper values throughout run.
- **STEADY LIGHTS and COOL CARS**—high sustained voltage that keeps lights strong and compressors running steadily even during long stops.
- **UNINTERRUPTED SERVICE**—trouble-free performance—withstands vibration, shock, service variations and temperature differences.
- **LOW RATES OF DEPRECIATION** . . . exceptionally long life.
- **EASY TO SERVICE.**
- **LOW COSTS** of maintenance and repair.
- **ABILITY TO MEET ALL REQUIREMENTS** of car design and electrical loads. They can be easily changed or recharged in yard . . . are safe, clean, quiet.

For assured dependability . . . day after day, year after year . . . equip your cars with Exide-Ironclads

—the service-proved batteries that are outstanding for car-lighting and air-conditioning . . . outstanding in performance, in service life, in economy.

**Exide-Ironclad Batteries are the
Best Power Buy—AT ANY PRICE**

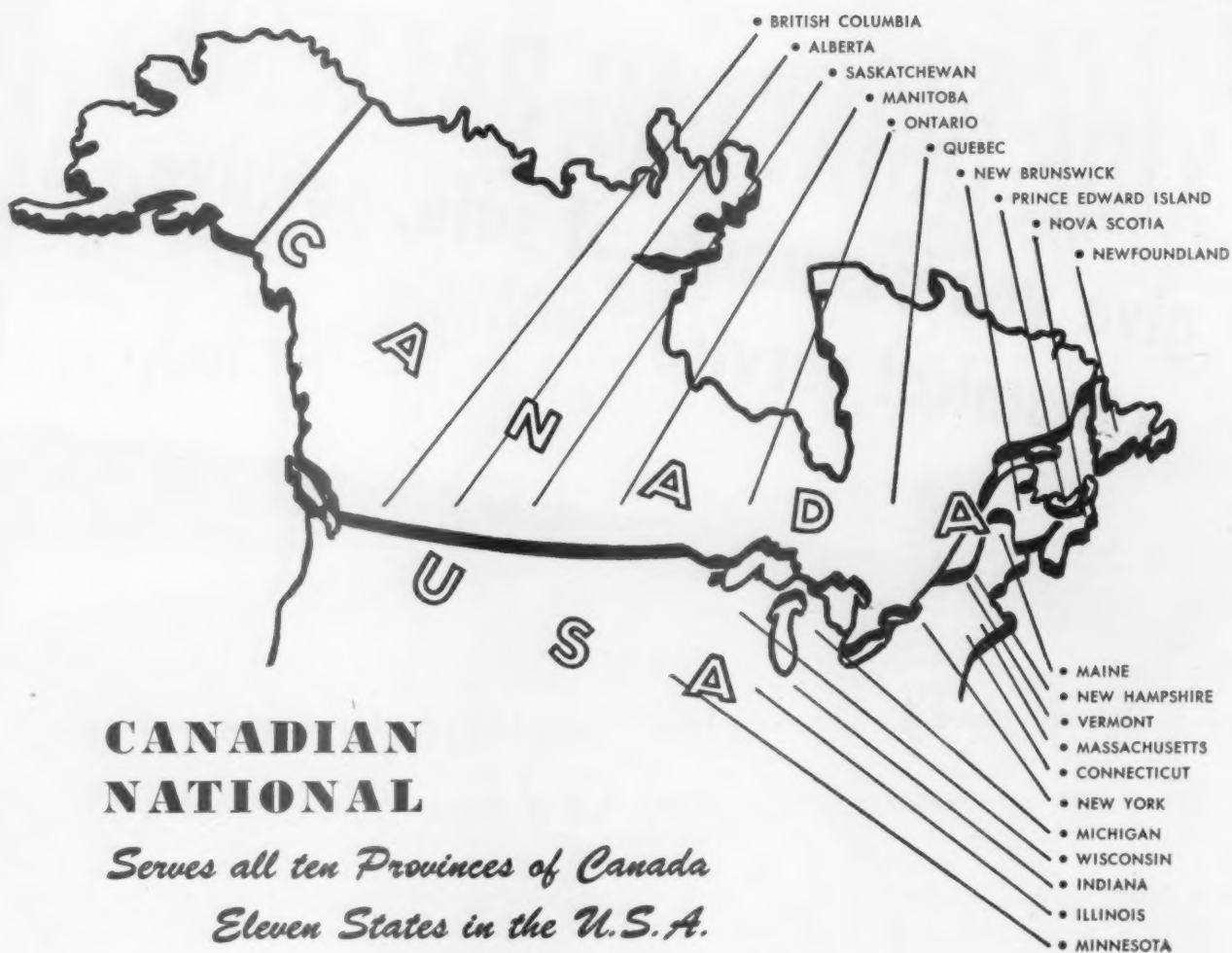
**DEPENDABLE
POWER**



"Exide-Ironclad"
Reg. Trade-mark
U.S. Pat. Off.

1888 — DEPENDABLE BATTERIES FOR 62 YEARS — 1950

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • Exide Batteries of Canada, Limited, Toronto



CANADIAN NATIONAL

*Serves all ten Provinces of Canada
Eleven States in the U.S.A.
and Alaska*

CANADIAN NATIONAL — 24,150 miles in extent — is the largest railway system in America. In addition to its rail services, it operates a chain of all-year and resort hotels, steamship services to Alaska and to Bermuda and the British West Indies. So . . . wherever you or your clients want to go . . . whatever you may wish to know about Canada, the information and service you want are available to you and will be gladly furnished at your nearest Canadian National office.

We'll tell you where, and take you there — quickly and comfortably by the facilities of America's largest Railway System.

Canadian National Railways offices in the U.S.:

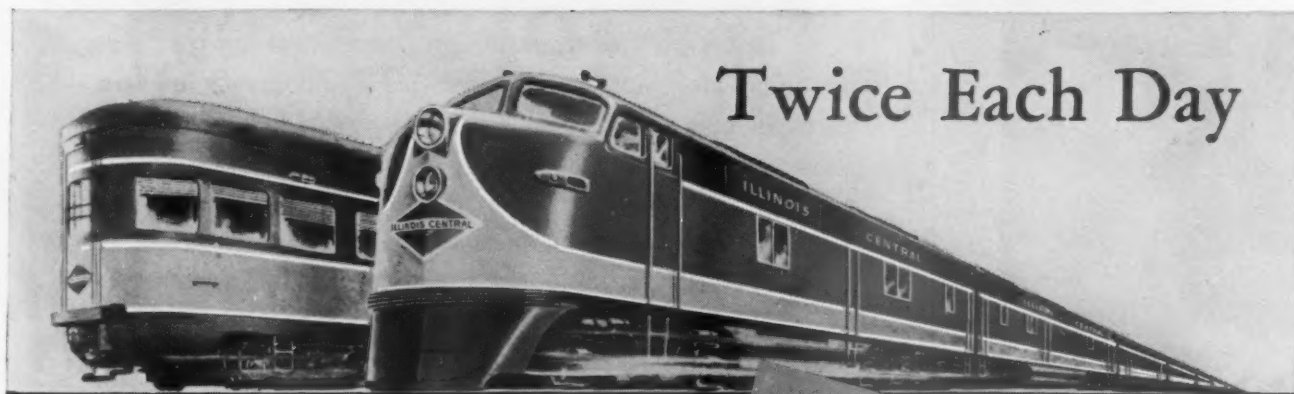
Boston, Buffalo, Chicago, Cincinnati,
Detroit, Duluth, Kansas City, Los Angeles,
Minneapolis, New York, Philadelphia,
Pittsburgh, Portland, Me., San Francisco,
Seattle, St. Louis, Washington, D.C.
In Canada: 360 McGill St., Montreal.
U.S. Citizens need no passport.

CANADIAN NATIONAL

Going Your Way



Twice Each Day



For trips between Chicago, Springfield and St. Louis, Illinois Central offers the finest streamliner service twice daily. Leave morning or afternoon... on the Green Diamond or the Daylight.

Going the Dayliner way means foam-soft reclining coach seats... reclining parlor car chairs... or quiet private rooms. Tavern lounges offer refreshment service and a club-like atmosphere for mingling with fellow Dayliner guests. Excellent Illinois Central food is courteously served in the smooth-riding diners.



Other travel names you should know...

PANAMA LIMITED — Overnight streamliner between Chicago-St. Louis, Memphis and New Orleans.

CITY OF MIAMI — Diesel-powered Streamliner all the way between Chicago-St. Louis, Birmingham and Florida. De luxe coaches, modern Pullmans. Operating two days out of three beginning December 14th.

LAND O' CORN — Daily Dayliner between Chicago and Waterloo, Iowa.

CITY OF NEW ORLEANS — All-coach luxury Dayliner between Chicago-St. Louis, Memphis and New Orleans.



Main Line of Mid-America



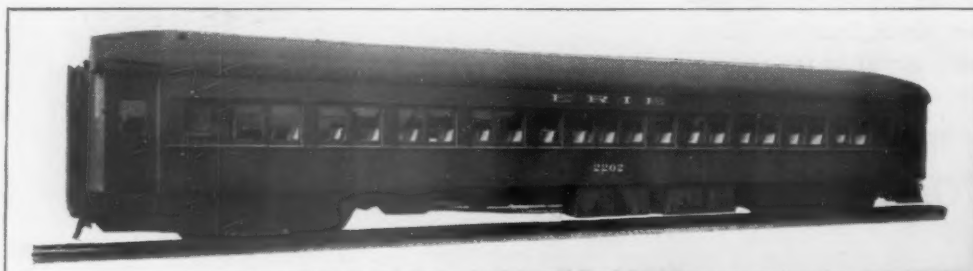
Adlake { WINDOWS YOUR

In railway modernization programs where low cost is an important factor, ADLAKE Windows *alone* will give a modern, streamlined appearance to old cars, putting them in harmony with the most up-to-date equipment.

Adlake Windows combine sleek, modern beauty with moneysaving utility—because when an ADLAKE Window is broken in service, *only the broken glass* need be replaced.

There are no costly shipments of sash back to the factory, for the windows can be completely, inexpensively reconditioned right in your own shops! What's more, ADLAKE Breather Windows remain always sparkling clear, regardless of changes in temperature or humidity. They require no maintenance other than routine washing, and contain no dehydrants or drying compounds.

ADLAKE Curtains also streamline cars at minimum costs. Both Pinch-Handle and Cable types are available.

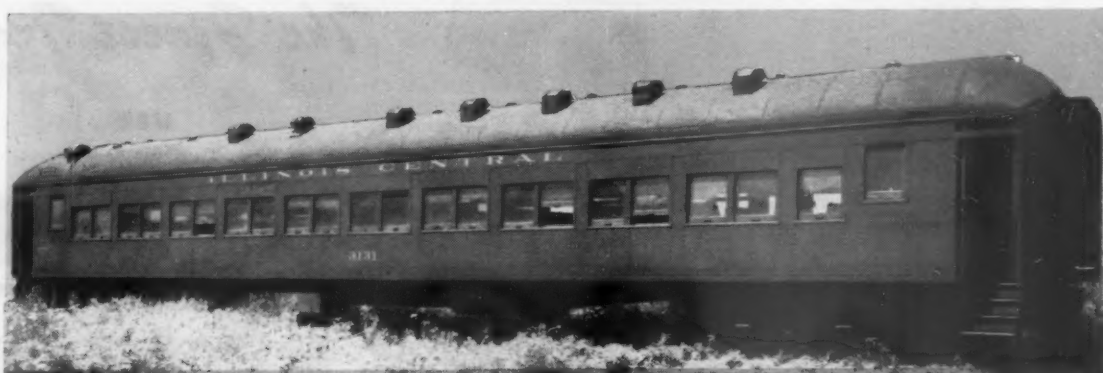


**BEFORE
MODERNIZATION,**
narrow, angular
windows gave
this coach a
"dated" look.



AFTER MODERNIZATION, this coach combines modern appearance with increased passenger comfort, thanks to ADLAKE Windows.

CAN HELP MODERNIZE PASSENGER CARS...At Minimum Cost!



BEFORE MODERNIZATION, this passenger car didn't harmonize with streamlined new equipment.



AFTER MODERNIZATION, this car became a valuable asset to its company. Note how ADLAKE Breather Windows create an impression of extra length.

FOR FULL INFORMATION on ADLAKE's part in *your* modernization plans, drop a card to The Adams & Westlake Company, 1109 N. Michigan, Elkhart, Ind. No obligation, of course.

— **THE Adams & Westlake COMPANY** —



Established 1857 • ELKHART, INDIANA • New York • Chicago

Manufacturers of Adlake Specialties and Equipment for the Railway Industry



The Finest Trains

use

COLONNA **KITCHENS**

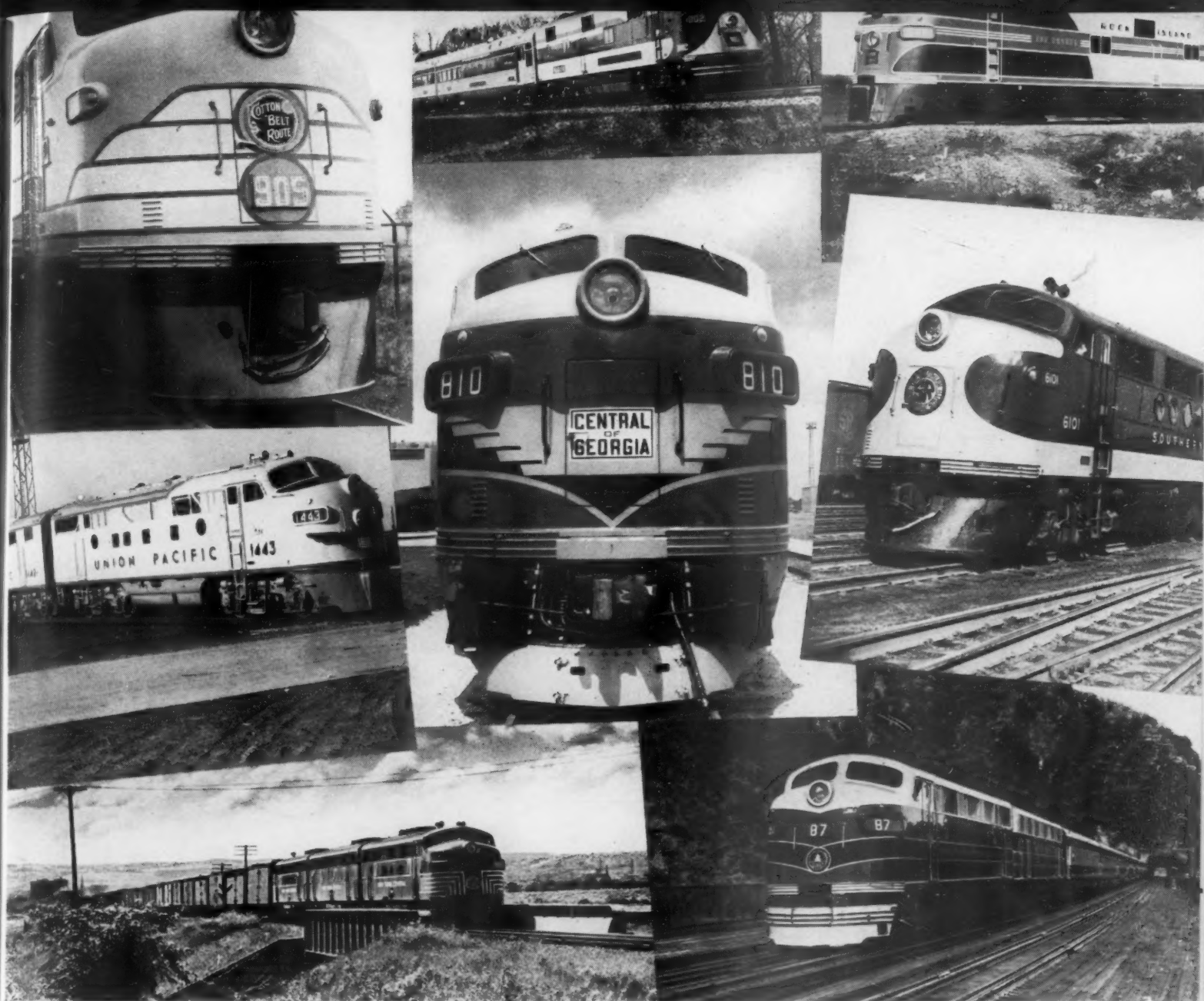
Here's Why

Over TWENTY YEARS of "Colonna know-how" in developing railroad kitchens and dining car equipment have contributed to *compactness* that is unusual . . . up-to-the-minute *sanitary* appointments . . . and detailed *efficiency* as shown in the photos above.

From the drafting room through the shops these thoughts are uppermost, and have resulted in making the "train housekeeping chore" easier aboard America's Finest Trains.

ANGELO COLONNA

WESTMORELAND & BOUDINOT STREETS
PHILADELPHIA 34, PENNSYLVANIA



PROVED PERFORMANCE

LEAVES NO QUESTION

Marked superiority of General Motors Diesel locomotives has been demonstrated in the handling of 6 billion passenger train car-miles, 1.3 billion gross ton-miles of freight and over 50 million hours of switching service from 1934 through September, 1950.

The results can be found in the records of some 90 American railroads—savings of 45 to 50 per cent in operating and maintenance costs and returns of 25 to 40 per cent on locomotive investment.

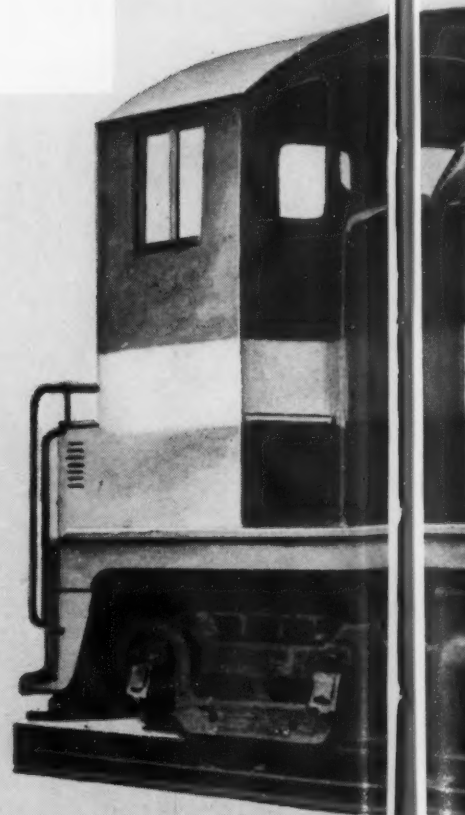
No question about it. Sixteen years—and more than 2 billion unit miles of experience on the rails—have proved that dieselization with General Motors locomotives is one of the soundest investments railroads can make.

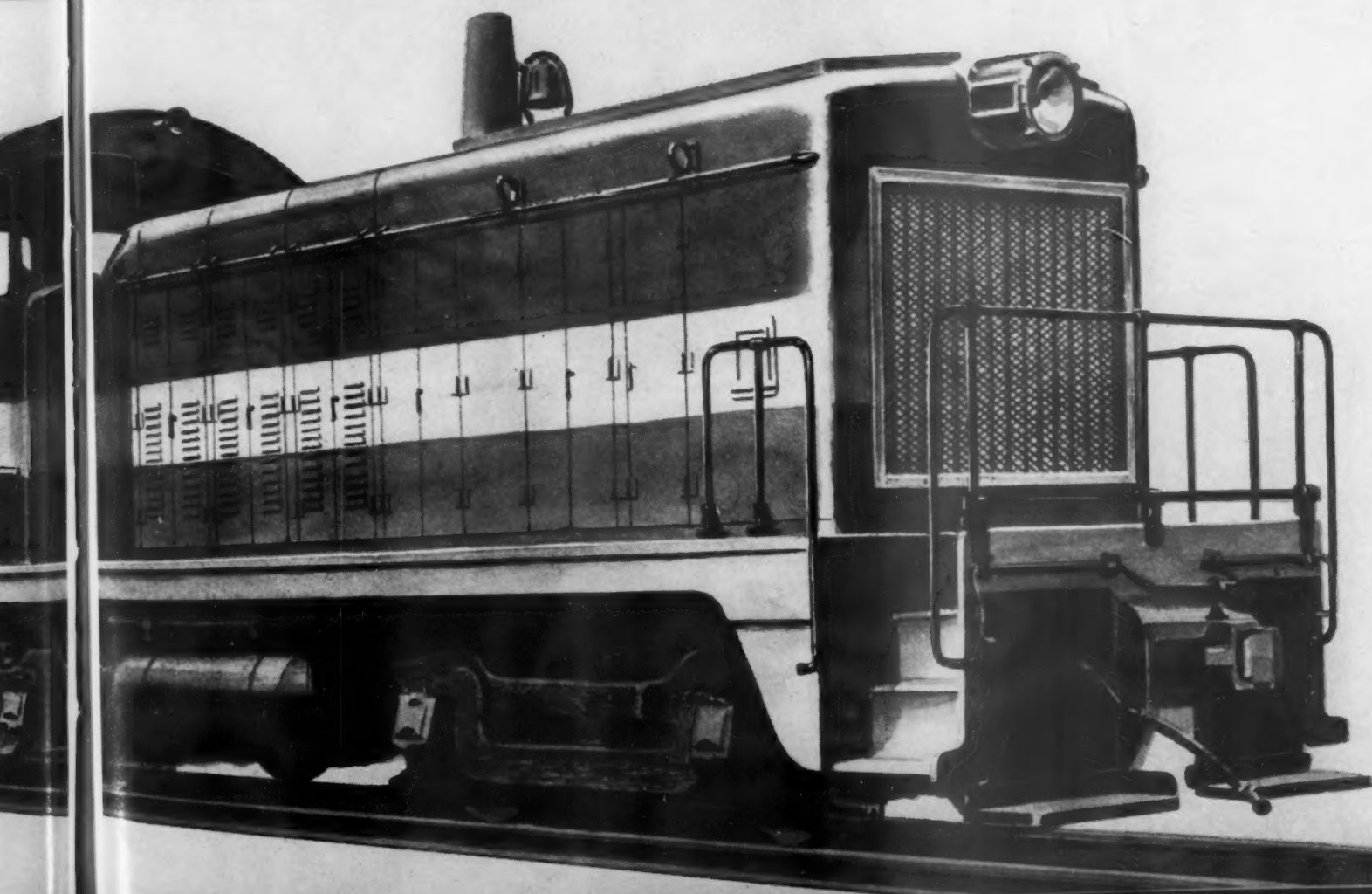
DEMONSTRATION runs totaling 98,028 miles on 51 railroads have shown the 1500 H.P. General Motors Road Switching locomotive has no equal for high-hauling capacity and reliable, economical operation in local freight, local passenger, yard switching, helper and transfer service. Already more than 20 railroads now have 544 GP7's in service or on order.

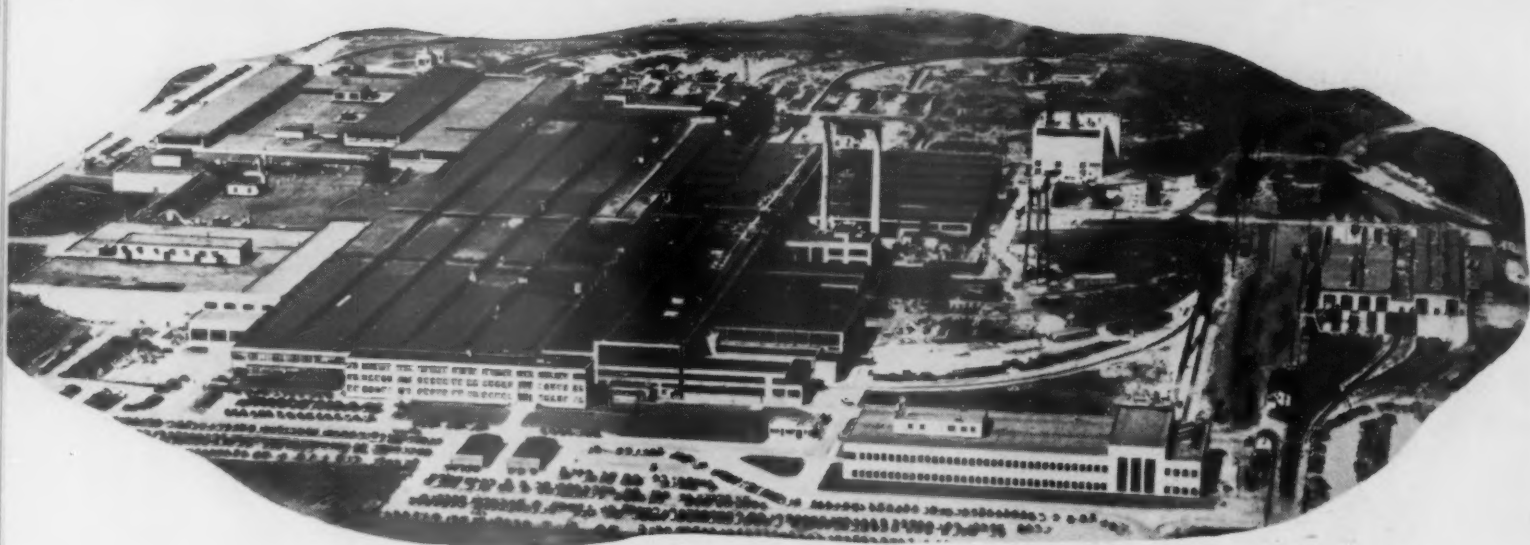


THE PROOF CONTINUES...

DURING the next year, Electro-Motive proposes to prove through actual field demonstrations that the new General Motors SW8 switcher—with its 800 H.P. and 115 tons on drivers—will handle all of the switching, transfer and help services ordinarily assigned to switchers in the 1000 H.P. class. But note that this locomotive's price of \$86,000 is \$11,500 less than other switchers in its performance range.







ONE MANUFACTURER... ONE RESPONSIBILITY

AT Electro-Motive, all phases of locomotive construction—the design and manufacture of all major components as well as their assembly—are centered in one organization. This concentration of responsibility for all phases of locomotive performance results in a balance of design—uniformity of high quality manufacture—and parts and service protec-

tion that is unrivaled in the motive power field.

All this—plus maximum interchangeability of low-cost parts between models—leaves no question that General Motors Diesel locomotives are the most productive tools available to railroads for reducing operating costs and increasing earnings.

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS



LA GRANGE, ILL.

Home of the Diesel Locomotive

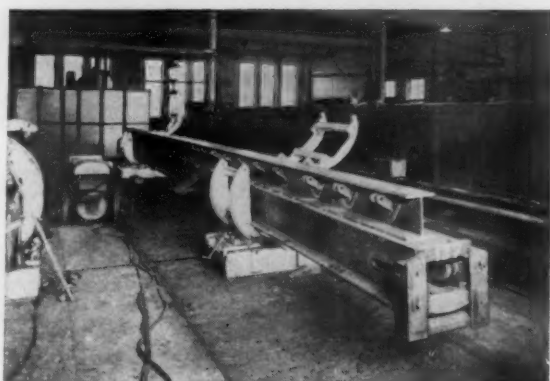
In Canada: GENERAL MOTORS DIESEL, LTD., LONDON, ONTARIO

flame cut . . . and arc welded gondolas

simplify design— reduce deadweight



Striker assembly and centering device in place in center-sill, showing close-up of assembly welding done with Airco No. 315 electrodes.



Center sill ready for removal from roll-over positioner after drop door hinge brackets and A B brake equipment brackets have been welded, using Airco No. 315 electrodes.



Beginning of car body assembly showing side stakes and ends being tacked in place using Airco No. 387 electrodes.

Streamlined design, weight-saving and increased capacity, are probably the most important features in all-welded cars. This design simplicity permits the elimination of lap joints — corrosion areas are removed and unloading problems are reduced to the minimum.

Further, the arc welded fabrication of gondola sections and parts permits the purchase of steel shapes to the most economical mill tolerance.

For more information about the use of the oxyacetylene flame and electric arc to machine cut and weld new cars, write your nearest Airco Office.



Car under frame in positioner showing final welding of car body, using Airco No. 315 and No. 387 electrodes.



Completed car after painting and inspection — ready for service.

Costs Come Down Under The Airco Plan



AIR REDUCTION

Offices in Principal Cities

Headquarters for Oxygen, Acetylene and Other Gases . . . Calcium Carbide . . . Gas Cutting Machines . . . Gas Welding Apparatus and Supplies . . . Arc Welders, Electrodes and Accessories

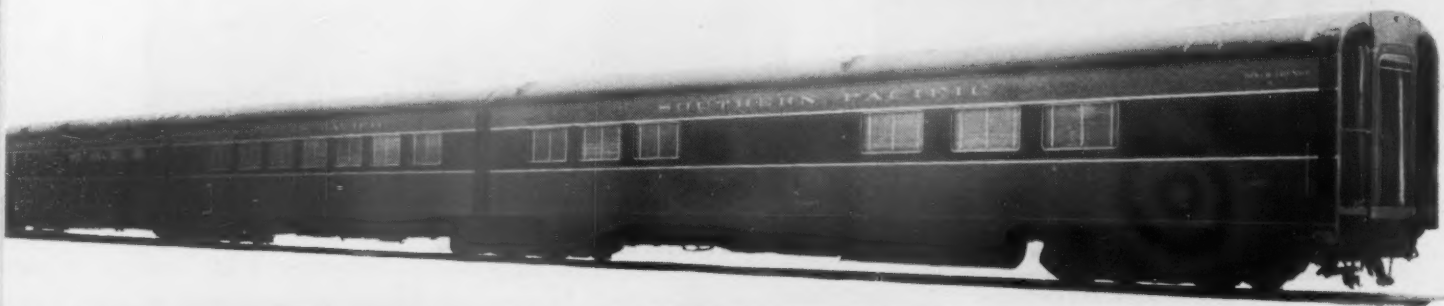
91%

of all postwar streamline

U·S·S STAINLESS STEEL

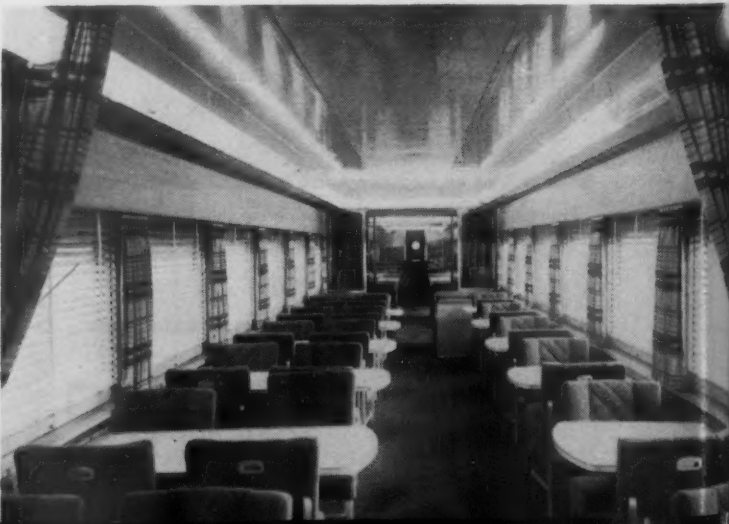


THE LATEST INNOVATION in railway passenger transportation is the Budd all-stainless Rail Diesel Car. Seating 90 persons these self-propelled Diesel-driven units will provide passenger comfort and speed on an economical basis in equipment specially designed to simplify maintenance. The RDC has a cruising speed of 70 mph and a maximum speed of 83 mph. It can be operated from either end as a single unit, or in multiples as a train in unrestricted main or branch line passenger service. Its enthusiastic reception by railroad men during a nation-wide demonstration tour last Fall—and the orders received since then—prove how aptly the RDC fits into the modern rail transportation picture.



*Pullman
Standard*

DESIGNED TO MATCH in service and beauty the "Shasta Day-light" streamliners, two new 13-car Southern Pacific "Cascade" streamline trains, built by Pullman-Standard, now operate in night service on the Shasta route between San Francisco and Portland, Ore. These de luxe, night-time speedsters clip two hours off the previous sleeping-car train schedules between these points. U·S·S COR-TEN is used throughout in underframes and superstructures.



e
EL
passenger-train cars built with

and U·S·S COR-TEN

to save weight and assure safety, stamina and economy

THE more than one-third of a billion dollars that the railroads have spent on new streamline passenger equipment since 1946 has certainly paid off. For today the streamline train, heralded a decade ago for its ability to make passenger runs profitable, is a *better* earner than ever. A recent survey made of 58 named streamliners on 20 railroads shows a gross revenue of nearly \$100 million, with a net return of 49.7%. And this despite the marked reduction in traffic since the war period.

The remarkably high earning power of streamline equipment is due to the greater speed, greater

safety, comfort and convenience it provides. The equally remarkable ability of this equipment to stay in revenue-producing service year after year is due primarily to forward-looking engineering both in design and construction and to the choice of materials well able to meet the rigors of high-speed operation.

The superlative performance delivered by U·S·S Stainless Steel and U·S·S COR-TEN in streamline equipment built before the war is one reason why these superior structural steels are so extensively used today.

In addition, these steels not only provide high strength and superior

resistance to atmospheric corrosion but they lend themselves readily to fabrication. By taking full advantage of these properties, car builders and railroads are using U·S·S Stainless Steel and U·S·S COR-TEN to build passenger equipment that ranks as the most modern, most efficient and also the most profitable in the world.

Our experience in helping apply U·S·S Stainless Steel and U·S·S COR-TEN in more than 6,000 passenger train units of every type has given us a background of practical knowledge which we invite you to draw upon freely.

AMERICAN STEEL & WIRE COMPANY, CLEVELAND • CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH
COLUMBIA STEEL COMPANY, SAN FRANCISCO • NATIONAL TUBE COMPANY, PITTSBURGH • TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST • UNITED STATES STEEL EXPORT COMPANY, NEW YORK



THREE NEW GREAT NORTHWESTERN STREAMLINERS, the "Internationals" and "Red River" built by American Car and Foundry, are models of present day train design. Combining speed, comfort and sturdy efficiency, they are earning the good will and support of the traveling public both in Canada and the United States. The low-alloy, high-strength steel used in body framing members of all cars is principally U·S·S COR-TEN.



U·S·S STAINLESS STEEL
U·S·S HIGH STRENGTH STEELS



UNITED STATES STEEL



BETTER PASSENGER SERVICE FOR

Northern New England

Consistent, steady improvement is a cardinal rule in Boston and Maine operation. Today our passenger traffic facilities are physically equipped to do a better job of transportation for New England than ever before.

ALL MAIN ROUTES DIESELIZED Through trains on the Boston and Maine are now Diesel operated. This brings the percentage of total Diesel operated passenger train miles to 61%. Deluxe passenger cars are extensively used on through trains.

NEW BALLAST — NEW TIES — NEW RAILS 714 miles of main track have been ballasted with heavy stone of top quality. 1461 miles have been ballasted with rock or gravel. All rock ballast territory has been cleaned. Better than 97% of our ties in track are treated ties. New and heavier rails have been installed whenever necessary.

MORE CENTRALIZED TRAFFIC CONTROL 396 miles of Boston and Maine track are now C.T.C. protected. Extended C.T.C., together with color light signals and modern electric pneumatic or electric interlocking plants provide Boston and Maine with an excellent signal system, increasing line capacity and speeding up the movement of trains.



BOSTON and MAINE RAILROAD



The **DAKOTA "400"**
The **VALLEY "400"**

The **FLAMBEAU "400"**
The **SHORELAND "400"**

as the famous

"400" FLEET

keeps growing . . .

More comfort, more luxury, more speed has been added to the famous "400" Fleet!

The DAKOTA "400" between Chicago and Huron, S. D.—The FLAMBEAU "400" between Chicago and Ashland, Wis.—and The SHORELAND and VALLEY "400s" between Chicago and Green Bay, Wis., are the newest members of the fleet to take their bows.

Now travelers to the north and west ride in finer fashion than ever before, for like their famous counterparts, these luxury streamliners provide the essentials for a comfortable, relaxing ride—those deep-cushioned seats, that welcome freedom of movement, and the satisfying meals and refreshment everyone enjoys.



THE "400" STREAMLINER FLEET NOW OPERATES BETWEEN CHICAGO AND—

APPLETON • ASHLAND • BELOIT • ESCANABA
FOND DU LAC • GREEN BAY • HURON
ISHPEMING • KENOSHA • MADISON • MANKATO
MARINETTE • MENOMINEE • MILWAUKEE
MINNEAPOLIS • NEENAH-MENASHA • OSHKOSH
RACINE • ROCHESTER • ST. PAUL • WATERSMEET

Chicago and North Western System

PIONEER RAILROAD OF CHICAGO AND THE WEST—SINCE 1848

BUY SOUTHERN CHILLED WHEELS WITH

extra strength where it counts

Here's how Southern Chilled Wheels, with their cored hub, sand rim and continuous bracket features, give your railroad its biggest money's worth in safety and strength.

Southern hollows out the wheel's hub, removes unneeded weight from this portion, and places it on the rim where it takes the hard wear and the pounding of contact with rails, frogs and crossings, mile after mile. This cored hub gives you a 100% stronger rim, and the continuous brackets give you a 25% stronger flange, without increasing the weight of the wheel. The cutaway view opposite shows these features.

Coring of the hub provides a more uniform section throughout the wheel, and so insures better annealing. This means fewer residual stresses and greater uniformity of strength.

Today, 282,000 Southern cored hub wheels are in service, rolling all types and sizes of freight cars, including 70-ton cars. This wheel becomes A. A. R. standard September 1.

Here are 4 good reasons why your railroad should specify Southern Chilled Wheels:

1. ECONOMY. You *save* with Southern. Currently the 750-lb. wheel costs \$6.65 less—\$53.20 less per car set—than other types of wheels. On replacement you can obtain two 750-lb. chilled wheels for the cost of one wheel of any other type.

2. OPERATING SAFETY. Tests prove Southern's cored hub wheel gives you a 100% stronger

rim and a 25% stronger flange than previous chilled car wheels.

3. AVAILABILITY. Southern Wheel foundries are located at key points to deliver these wheels to you *overnight*. There's no need for large, costly inventories.

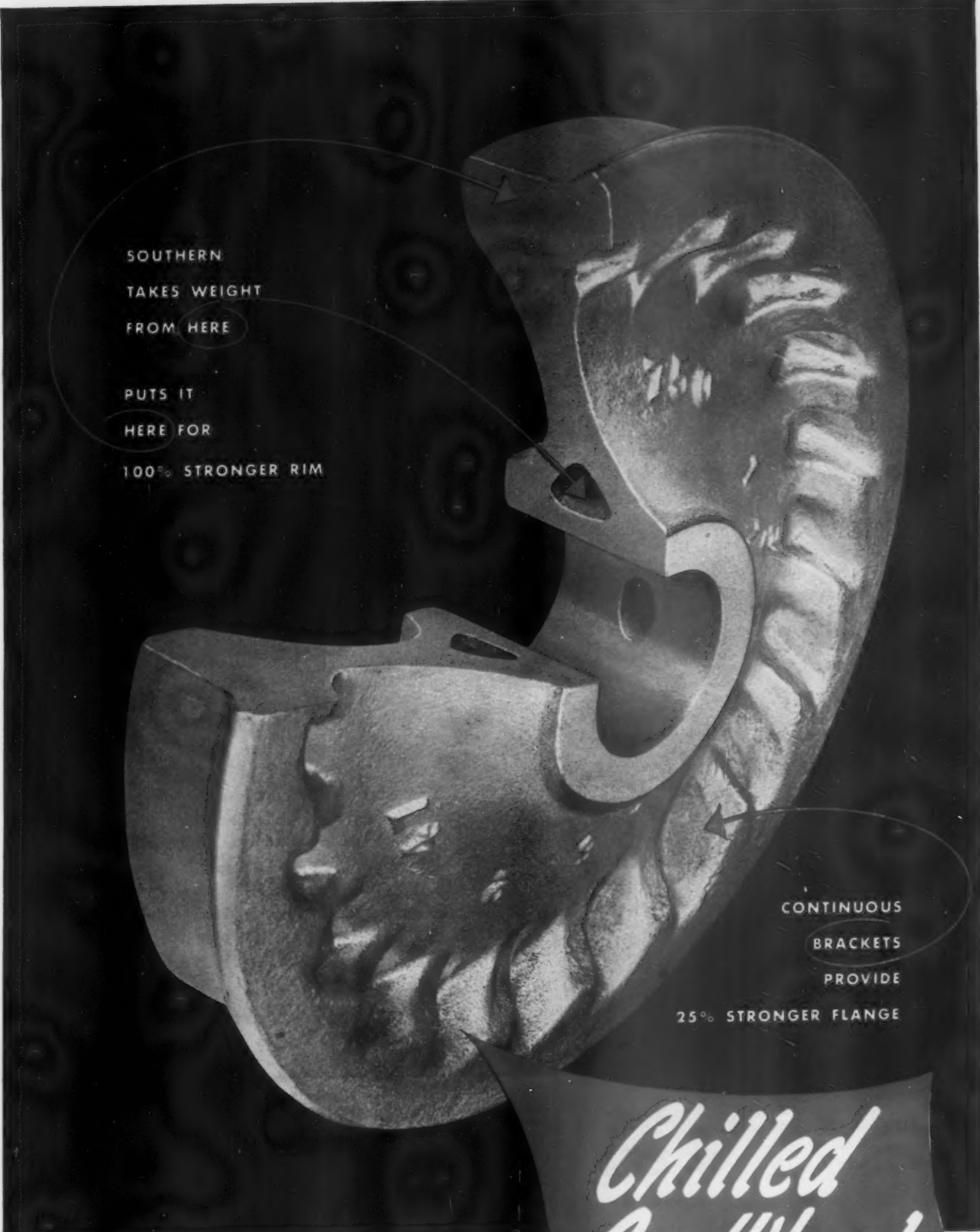
4. PROOF IN SERVICE. 282,000 new cored hub Southern Wheels are in service today.

Your road too can save safely with Southern Chilled Wheels.
Call or write your Southern Wheel representative.

1850

100 years' experience — plus intensive research — brings you a superior product

1950



SOUTHERN
TAKES WEIGHT
FROM HERE

PUTS IT
HERE FOR
100% STRONGER RIM

CONTINUOUS
BRACKETS
PROVIDE

25% STRONGER FLANGE

*Chilled
Car Wheels*

AMERICAN
Brake Shoe
COMPANY

SOUTHERN WHEEL
DIVISION
230 Park Avenue,
New York 17, N. Y.

FAR-AIR* FILTERS

offer you absolute

**PRODUCT
UNIFORMITY**



You can be sure of top quality air filtering efficiency when you specify FAR-AIR Filters for your diesel locomotive and car ventilation applications. Precision engineering plus quality construction to rigid specifications assure *uniform* FAR-AIR Filter performance — larger dirt holding capacity, lower pressure loss, easier cleanability, reduced maintenance and replacement costs. That's why most of the railroads in America have standardized on FAR-AIR.

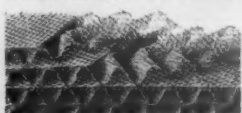
Farr Company engineers solicit your air filtration problems. Write today for complete information. Farr Company, 2615 Southwest Drive, Los Angeles 43, California.

A complete line of filter servicing equipment is available for any requirement, including 2 types of Far-Air automatic washers and oilers for volume operations.

*Trade Mark Reg.

herringbone-

FAR-AIR FILTERS



"Better by Farr"

-corrugations

FARR COMPANY

Manufacturing Engineers

Los Angeles • Chicago • New York

• Mf'd under license by Control Equipment Co., Ltd., Montreal, Canada.



"When materials can be loaded and unloaded by fork trucks, there is more freight car availability without increasing the number of freight cars. . . car floors must be stronger to avoid breaking them when using this type of equipment."

—Report of A.A.R. Committee on Storage and Material Handling Facilities at Purchases and Stores Division Meeting, June 1949.

"The savings in manpower and money are tremendous," the A.A.R. Committee further reported. That's the reason why more and more progressive roads are turning to NAILABLE STEEL FLOORING . . . either specifying it in new orders or converting present rolling stock.

Investigate your losses in repairing or replacing broken wooden floors, in damage suits, in idling cars that can't take modern loading methods . . . and then investigate all-purpose, ever-ready NAILABLE STEEL FLOORING.

YOU SAVE 3 WAYS

In boxcars, flats, and gondolas, the long life of NAILABLE STEEL FLOORING means lower repair and replacement costs and lower operating costs. And because it holds nails tighter and won't splinter, goods are safer on NAILABLE STEEL FLOORING. It saves you money in three ways—in operations, maintenance, and damage claims.

Further information on NAILABLE STEEL FLOORING is available from sales representatives in Detroit, Chicago, Philadelphia, St. Louis, Atlanta, San Francisco.

There's
**FREIGHT
PROGRESS,
TOO**
with
palletized loading
and...

**NAILABLE
STEEL
FLOORING**



PATENTS PENDING

45-SF-228

SAVE FLOORING WEIGHT • GAIN FLOORING STRENGTH

In a 40'6" boxcar, to attain floor strength equal to that of NAILABLE STEEL FLOORING—made of corrosion- and abrasion-resistant N-A-X HIGH-TENSILE steel—would require approximately 1,000 pounds more weight if plain carbon steel were used. In a 52'6" gondola, it would require 1,600 pounds more in plain carbon steel.

GREAT LAKES STEEL CORPORATION

Steel Floor Division • Ecorse, Detroit 29, Michigan

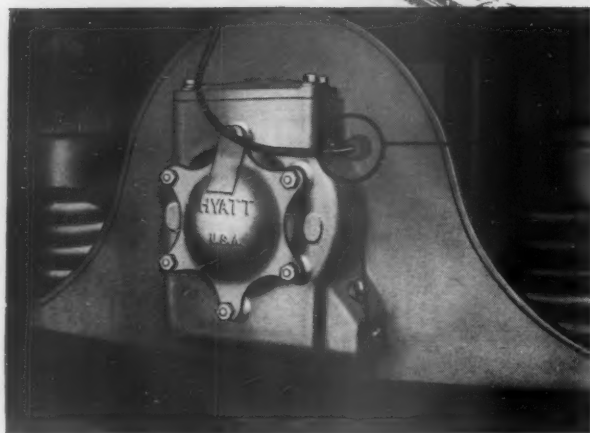
NATIONAL STEEL CORPORATION



PRODUCER OF

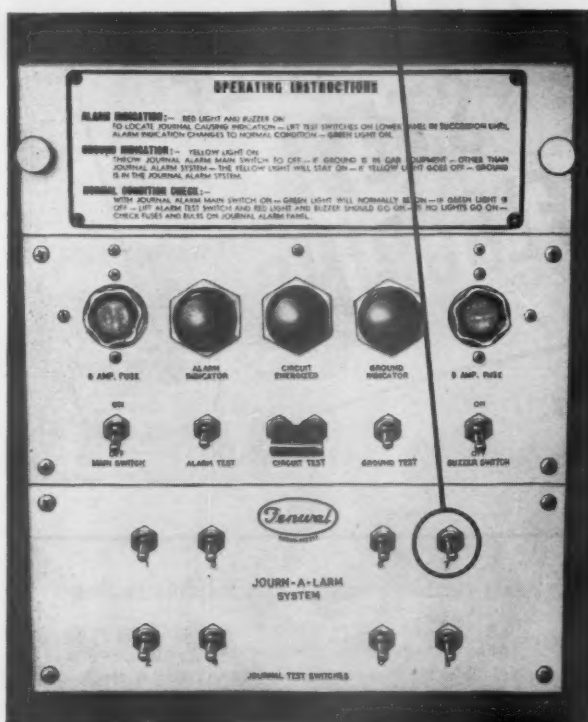


Detect hot box danger automatically— instantly



Typical THERMOSWITCH® and Cable installation. Low-cost maintenance — requires no special knowledge or equipment.

with Fenwal **JOURN-A-LARM** System



Control panel unit provides immediate detection and location of overheated bearing. Switches are numbered to correspond with wheel number of car.

APPROVED BY LEADING RAILROADS. The Fenwal JOURN-A-LARM System automatically detects and warns of hot box danger. A mere flip of a switch on the JOURN-A-LARM control box in the car instantly identifies the overheated bearing. Eliminates need for train crews to check individual bearings *outside* the car.

This unusual system — continually monitored through a failproof circuit — automatically gives a visible, audible warning inside the car when bearing heat exceeds specified temperature. Nerve centers of the JOURN-A-LARM are the Fenwal THERMOSWITCH® thermostats located in each bearing. Unique, highly sensitive, vibration-proof THERMOSWITCH mechanism assures positive action under every operating condition.

Fenwal THERMOSWITCH thermostats are also used for Car Heating, Air Conditioning, Diesel Overheat Detection. Write for bulletin. Fenwal Incorporated, 1710 Pleasant Street, Ashland, Mass.; 11 South Burlington Ave., Los Angeles 4, Cal.

Fenwal

Temperature Control Engineers

JOURN-A-LARM

SENSITIVE . . . but only to heat



r
ly -



al **RM**

ADS. The
omatically
mere flip of
trol box in
ed bearing.
individual

monitored
cally gives
car when
ure. Nerve
the Fenwal
ted in each
ation-proof
es positive

ostats are
ing, Diesel
in. Fenwal
and, Mass.;
4, Cal.

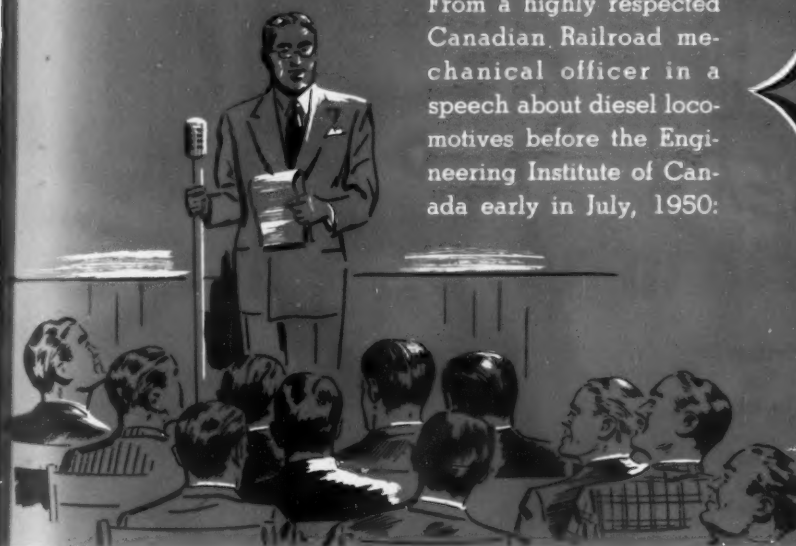
ers

M

at

RAILWAY AGE

VAPOR Steam Generators Heating diesel trains in sub-zero weather!



From a highly respected Canadian Railroad mechanical officer in a speech about diesel locomotives before the Engineering Institute of Canada early in July, 1950:

".....and that during the past winter, extensive tests were conducted with diesel electric locomotives on passenger runs between Montreal and Winnipeg in order to investigate the problem of heating these trains in extremely cold weather. These tests show that satisfactory operation could be expected in that part of the system where very severe winter conditions exist."

VAPOR Engineers were permitted to participate in these and similar tests on both major Canadian railroads during the coldest part of the 1949-1950 season. VAPOR'S continuously improved Steam Generator performance is a result of the fine suggestions and cooperation from the mechanical and operating forces of American and Canadian railroads and locomotive builders. This cooperation was never more effectively demonstrated than during the tests on Canadian railroads during most severe weather last winter.

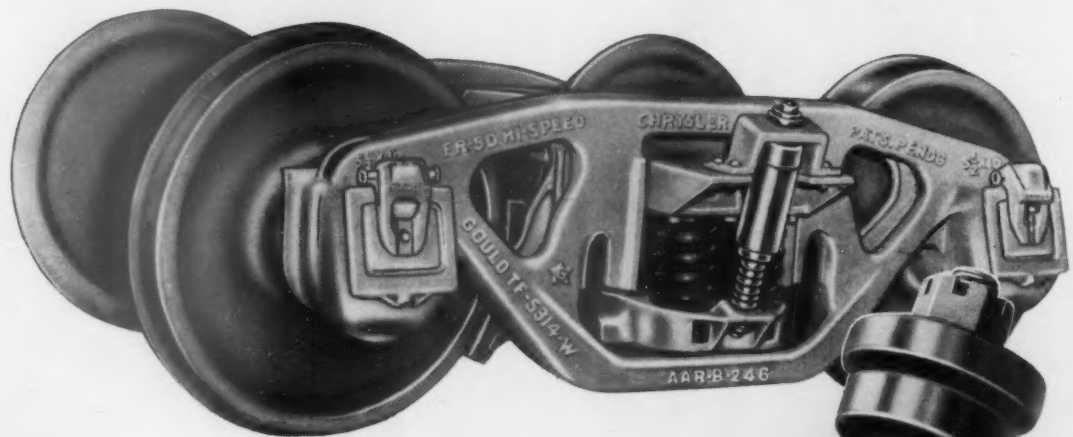
The VAPOR Organization sincerely appreciates the suggestions and cooperation from the mechanical and operating departments of the railroads and locomotive builders. This cooperation enables us to assure railroad management that VAPOR Generators will always be the reliable source of steam for diesel locomotives under all climatic conditions.

VAPOR HEATING CORPORATION

80 EAST JACKSON BLVD., CHICAGO 4, ILLINOIS

NEW YORK • ST PAUL • DENVER • CLEVELAND • WASHINGTON • PHILADELPHIA • SAN FRANCISCO
ST. LOUIS • PORTLAND • JACKSONVILLE • RICHMOND • HOUSTON • MONTREAL • LOS ANGELES

YOUR PROVEN ANSWER TO Smoother, Faster Travel



IT'S THE HOUDAILLE* FRICTION SNUBBER

During the last two years, the Houdaille Friction Snubber has proven its effectiveness and long life in extensive service tests . . . and is now standard equipment on the Chrysler-Design Trucks for the new General American-Evans Damage Free Box Cars.

This simplified but effective railroad shock absorber can be used for both vertical and lateral control. It is self-compensating for wear and can be maintained by present railroad personnel without special training. It is particularly suitable for the new "soft," long-travel springs.

The Houdaille Friction Snubber as applied to the Chrysler-Design Trucks for the new GAEX Damage Free Box Cars.

HOUDAILLE-HERSHEY CORPORATION
HOUE ENGINEERING DIVISION
BUFFALO 11, NEW YORK

* Say
Hoo-dye

Frisco's Railuxury twins



... the Meteor and the Texas Special!

Symbolizing passenger progress over the last fifty years are Frisco's two great streamlined, diesel-powered railuxury twins.

Today, the Meteor and the Texas Special are the criteria for modern "railuxury" in their territories. Superb bedrooms each with enclosed lavatory and toilet... smartly appointed roomettes... handsome chair cars equipped with "Sleepy Hollow"

seats... all provide a new sensation in safe, dependable, comfortable travel on the Meteor or the Texas Special.

To add to your pleasure, both trains are equipped with diners, lounge-observation and lounge-buffet cars which are served by friendly personnel whose one objective is to make FRISCO, truly, your "Home on the Rails"!

Meteor

St. Louis — Tulsa — Oklahoma City... with through sleeping car Oklahoma to St. Louis and Chicago.

Texas Special

St. Louis — Dallas — Fort Worth — San Antonio... with through sleeping cars between Texas, Washington and New York.



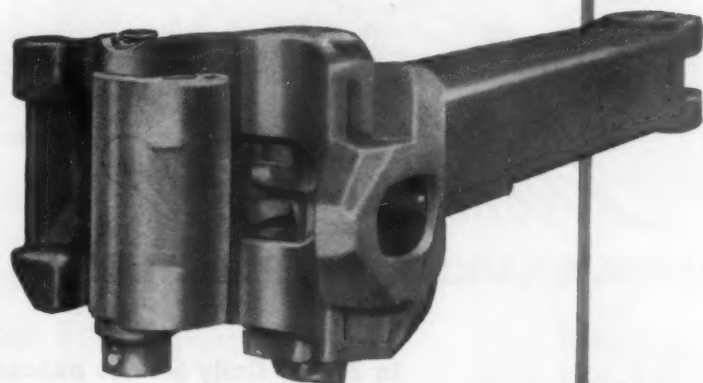
Southern Belle[®]

STREAMLINED HOSPITALITY
between
KANSAS CITY
and
NEW ORLEANS



W. C. CLARK
Passenger Traffic Manager
Shreveport, La.



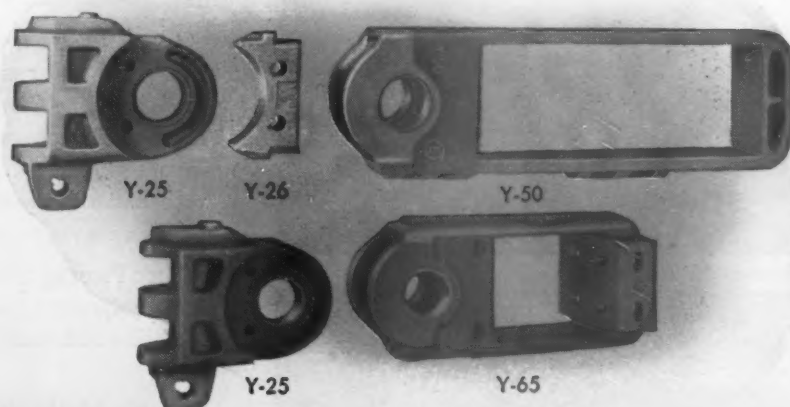


“50 Years
of
Passenger
Progress”

The A.A.R. STANDARD TYPE H
TIGHTLOCK COUPLER
and Attachments

Provide Maximum Comfort and Safety

- No slack in coupler contour.
- Noise caused by coupler slack eliminated.
- Coupler interlock provides maximum safety.
- Improved lock anti-creep protection.
- Wear and Maintenance reduced to a minimum.
- Meet A.A.R. Passenger Car Specifications for strength.



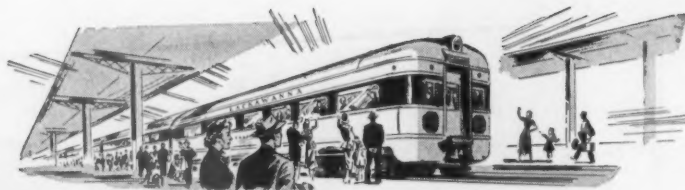
THE BUCKEYE STEEL CASTINGS COMPANY

New York, N. Y.

Columbus, Ohio

Chicago, Ill.

**There's nothing finer
on rails . . .**

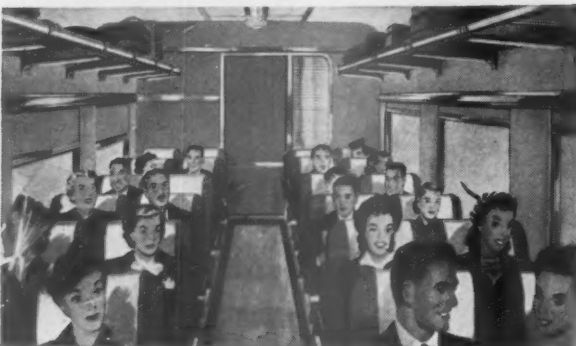


The Phoebe Snow

LACKAWANNA'S LUXURY STREAMLINER



NEW Observation Tavern-Lounge Car



NEW Easy-Chair Coaches



NEW Spacious Dining Car



**In 2-Way Daily Service between
NEW YORK, NEWARK, SCRANTON,
BINGHAMTON, ELMIRA and BUFFALO**

Replete with *new* features, *new* styling and *new* appointments, THE PHOEBE SNOW sets a new high standard in modern travel luxury.

A glimpse of one of THE PHOEBE SNOW coaches reveals a whole new array of comforts and conveniences. Wide vista windows . . . individual reclining seats . . . over-sized luggage racks . . . fluorescent lights . . . circulating ice-water . . . individual vanity tables in the women's lounges . . . and other up-to-the-minute appointments.

For sociability and relaxation, THE PHOEBE SNOW offers a smart new Observation-Lounge Car with deep-cushioned club chairs facing the large picture-windows — and with a separate Tavern section and refreshment bar.

The beautiful and spacious Dining Car of THE PHOEBE SNOW, with its wide panoramic windows, Venetian blinds and colorful drapes, provides a perfect setting for those delicious home-style meals for which the Lackawanna long has been famous.

For through travel between New York and Chicago, the westbound PHOEBE SNOW carries a modern, *all-private-room* Sleeping Car, containing 10 roomettes and 6 double bedrooms. Features of these rooms include individual controls for lighting, heating and air-conditioning . . . wardrobe and shoe lockers . . . full-length mirrors . . . and other modern conveniences.

THE PHOEBE SNOW is the latest addition to the fleet of new equipment which Lackawanna has placed in service on mainline trains as part of its vast modernization program.

There's Nothing Lacking on the



Lackawanna Railroad

THE ROUTE OF PHOEBE SNOW



Great Trains make Great Railroads . . .

THE Hiawathas

Contributing largely to the prestige of The Milwaukee Road is its fleet of HIAWATHAS operating nearly nine thousand miles a day.

The superb standards of service established by these Speedliners are all-important, not only in maintaining present passenger volume, but in winning more travelers back to the rails.

It is the aim of The Milwaukee Road always to provide the utmost in swift, smooth, comfortable and convenient travel at lowest possible cost.

H. Sengstacken, Passenger Traffic Manager,
708 Union Station, Chicago 6, Illinois.



Upper—Skytop Lounge has glare-proof glass.
Lower—Private bedrooms with every convenience.
Left—Surroundings add much to dining car meals.



THE
**MILWAUKEE
ROAD**



PROGRESS CHANGES T



BETTMANN ARCHIVE



Pride of the Road... Circa 1850. DeLuxe equipment, complete with coal oil illumination, wood-burning stove, tin drinking cup and hard seats.

IS THE PICTURE...

Modern equipment is the product of progress...progress by America's Railroads...progress by America's car builders. No railroad can afford to lose step in the constant march of modernization. Whether it's passenger equipment or freight equipment, keeping pace with the times demands that a railroad keep a watchful eye and an open mind toward improvement of service and profit potentials.

PROGRESS CHANGES

the *PROFIT* Picture, too!

The modern streamliner of today is a demonstration of sound economics. For confirmation, inspect the operating records of road after road that has properly promoted and judiciously employed this modern equipment. Traffic has increased...operating costs lowered...with a resultant improvement in the profit picture.

Modern passenger equipment...as well as freight equipment...is a keystone not to be neglected in the profit structure of America's Railroads.

American Car and Foundry Company, New York
Chicago • St. Louis • Cleveland • Philadelphia
Washington • Pittsburgh • San Francisco



Pride of the Road...1950. Standard equipment, completely and automatically air conditioned, fluorescent lighting and all the comforts of home.



a.c.f.

CAR BUILDERS TO AMERICA'S RAILROADS



The STREAMLINED EAGLE FLOCK

- ★ The **TEXAS EAGLE** overnight between St. Louis, Memphis and the principal cities of Texas. Through sleeping cars between New York, Washington and Texas.
- ★ The **COLORADO EAGLE** between St. Louis, Kansas City, Wichita and Colorado. Planetarium-observation coaches between St. Louis and Denver daily.
- ★ The **MISSOURI RIVER EAGLE** between St. Louis and Kansas City, St. Joseph, Lincoln, Omaha.
- ★ The **VALLEY EAGLE** between Houston, Corpus Christi and the Rio Grande Valley.

*Premium Speed, Convenience and Comfort
at No Extra Fare*

**MISSOURI
PACIFIC
LINES**

**SERVING THE WEST
-SOUTHWEST EMPIRE**

For maximum Diesel Performance use Vanadium Steels and Irons

You can obtain the mechanical properties required for satisfactory operation and long service life of Diesel locomotives by using Vanadium steels and irons.

Vanadium steel forgings, as well as Vanadium iron castings, have been designed for the best balance of mechanical properties obtainable for the service required of each specific part.

Recommended steel and iron compositions are given in the accompanying list for a variety of parts, many of which have already established satisfactory service records. A choice of materials is shown in some instances, in recognition of preference and of those variations in design and type of service which govern the properties required.

The metallurgical engineers of the Vanadium Corporation of America realize that each part is an individual problem, and they are prepared to cooperate with you to the fullest extent in selecting the best material for each application.

• • •

Write for Data Sheet giving details of composition, heat treatment and mechanical properties of Vanadium steels and irons for various Diesel applications.



PART

MATERIAL

STEELS

AXLES	C-V steel
BRAKE RIGGING CASTINGS	Mn-V cast steel
CAMSHAFTS	Cr-V (AISI 6120) steel
COUPLERS	Mn-V cast steel
CRANKSHAFTS	Cr-Mo-V (4140+V) steel Ni-Cr-Mo-V (4340+V) steel Cr-V (6140) steel Cr-V (50T46) steel C-V (1045+V) steel
ENGINE BLOCK BASE	Mn-V plate steel
EQUALIZERS	Mn-V steel
GEARS	Cr-V (6145) steel
INJECTOR TIPS	Cr-V (6145) steel
PISTON PINS	Cr-V (AISI 6120) steel
ROCKER ARMS	Mn-V cast steel
ROCKER ARM BRACKETS	Mn-V cast steel
ROCKER ARM SHAFTS	Cr-V (AISI 6120) steel
SPRINGS	Cr-V (AISI 6150) steel Cr-Mo-V steel
TRUCK FRAMES	C-V cast steel Mn-V cast steel Ni-V cast steel

IRONS

CYLINDER HEADS	Mo-V cast iron, Graphidox-treated*
CYLINDER LINERS	Cr-Mo-V cast iron, Graphidox-treated* Mn-V cast iron
EXHAUST MANIFOLDS	Mo-V cast iron Cr-Mo-V cast iron, Graphidox-treated*
PISTONS	Ni-Mo-V cast iron, Graphidox-treated* Mo-V cast iron, Graphidox-treated* Ni-Cr-Mo-V cast iron, Graphidox-treated*

*Graphidox is a graphitizing and deoxidizing alloy.

VANADIUM CORPORATION OF AMERICA

420 LEXINGTON AVENUE, NEW YORK 17, N. Y. • DETROIT • CHICAGO • CLEVELAND • PITTSBURGH

Two thousand more Revenue-Producing Passenger Cars are on the rails

A few weeks ago, we delivered the 2,000th passenger train car "Built by Pullman-Standard" since V-J Day.

We take real satisfaction in knowing that so many of the new trains equipped with these Pullman-Standard cars are creating new business for the railroads and establishing fine records in revenues-per-mile.

Also, we are proud that Pullman-Standard is still first choice among the railroads. More than half of all passenger train cars built in America since World War II carry the Pullman-Standard name plate. We believe that the principal



reasons for this continuing leadership are our company's reputation for knowing its business and our 83-year-old practice of offering only the best available in new equipment.

To our many friends in the railroad industry we extend our sincere thanks for their confidence and patronage. Especially we are grateful to them for the vast amount of patience and understanding that they have displayed during these difficult years of postwar passenger car production. Together we have gained invaluable new experience and learned new lessons—such as the need for greater standardization of passenger car design—that will be of substantial future benefit to the railroads.

Pullman-Standard

CAR MANUFACTURING COMPANY

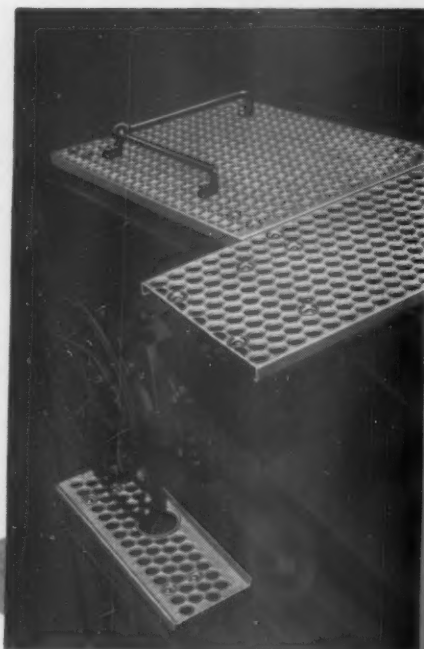
CHICAGO • NEW YORK • CLEVELAND • WASHINGTON, D. C. • PITTSBURGH
BIRMINGHAM • SAN FRANCISCO



MORTON

BIG economies are the sum of many small savings, when you specify Morton equipment . . . savings in first cost, savings in maintenance, and the all-over economy of long-lasting quality. Morton railway specialties have been standard on many railroads for almost half a century. Compare the advantages and you'll insist on *Morton*. Write for costs and specification sheets.

MORTON OPEN-GRIP RUNNING BOARDS AND BRAKE STEPS



Safe. Self-cleaning. Guaranteed for the life of car body. Non-dulling Kass Safety Buttons are effective in all directions. Open construction prevents moisture and dirt accumulation. No seams, joints, slots, or welds to rattle or start corrosion. Die-formed in many sizes and shapes from a single piece of copper-bearing steel, and hot dip galvanized.

Inquiries invited on fabrication of metal specialties—all types of forming and welding operations.

MORTON "CHANARCH" STEEL FLOORING

The ideal support for composition flooring. Narrow dovetail sections serve as anchorage for floor composition. Arches, designed for maximum load-carrying ability, reduce the amount of top surfacing needed. Choice of metals and gauges.



MORTON HOLLOW METAL DOORS

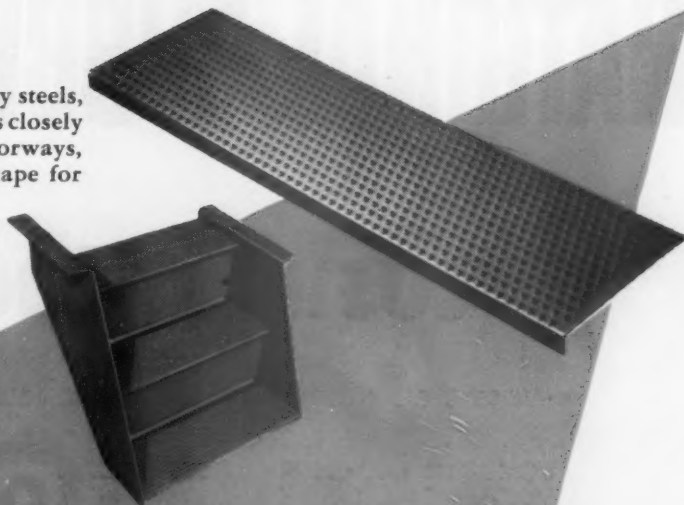
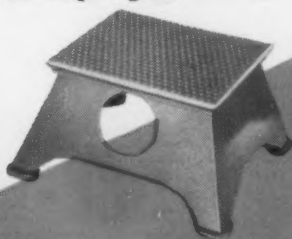
Designs and types for every car requirement. Steel, aluminum, or stainless. Standard or built to order. Morton construction provides strength and durability without unnecessary weight, and attractive appearance for modern treatment.



MORTON KASS SAFETY TREAD

Fabricated from mild steel, stainless or other alloy steels, or aluminum, with perforated Kass Safety Buttons closely spaced in staggered rows for slip-proofing doorways, steps, and entrances. Made in virtually any shape for replacements and new installations.

Smooth flange margins, as desired. Sizes to 36" x 120". Also furnished as integral parts of Kass Safety Step Boxes and two-, three-, or four-step Morton Step Flights.

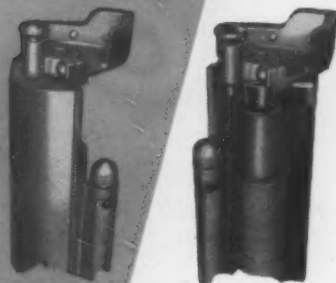


MORTON-ZIP VESTIBULE WEATHER-SEAL

A full-length "zipper"-type closure that seals out dust and moisture; protects passengers when passing from one car to another; assures cleaner interiors. Overlap makes seal tight. Materials conform with other train appointments. New cars or old. No interference when coupling with non-sealed cars. Easily applied.

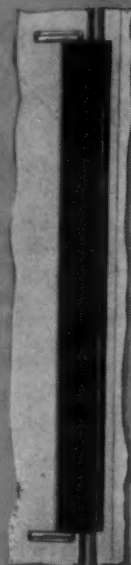


MORTON VESTIBULE CURTAINS



Curtains and parts, handles, hooks, and brackets for all requirements. Morton revolving shield is illustrated (left, closed; right, open). "Safety release" curtain.

MORTON ANTI-PINCH SHIELDS



Simple closures which prevent passengers from catching hands between hinge-edge of closing door and door jamb. Easily attached. Interfere in no way with attractive appearance or efficient door operation.

MORTON VESTIBULE DIAPHRAGMS

Lasting, positive protection from weather, water, cinders. Sloping top drains quickly. Belting is rugged "50-50" weave, treated for fire and moisture resistance. "Plas-Tex" finish can be furnished in colors. Many features. Also, diaphragm attachments for all requirements.



MORTON MANUFACTURING COMPANY

5125 West Lake Street, Chicago 44, Illinois

SALES OFFICES — New York, St. Louis, St. Paul, Washington, D. C., San Francisco, Louisville, Montreal.

OTHER PRODUCTS: VESTIBULE TAIL GATES, WINDOW CURTAIN FIXTURES, WINDOW CURTAIN ROLLERS, PRESSED STEEL SHAPES, DRAWN STEEL MOLDING, STEEL STAMPINGS

NATIONAL RUBBER-CUSHIONED

cushion the ride behind

THE National Rubber-Cushioned Type M-380 Draft Gear shown here cushions the ride behind 9 out of 10 heavy diesel and electric freight and passenger locomotives. Here are some of its basic advantages and an explanation of its simple design:

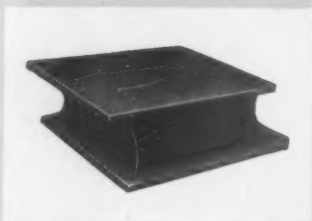
DOES NOT CREEP—Under sustained loads, gear will not creep.

RESERVE DYNAMIC CAPACITY—To provide the best combination of soft riding action and high shock absorption, dynamic capacity of a gear must be greater than its static capacity.

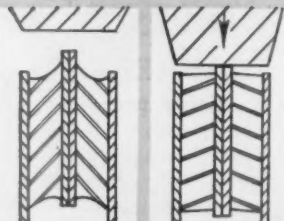
The National Type M-380 Gear has dynamic capacity that actually increases with severity of the shock.

DURABILITY—National Rubber-Cushioned Draft Gears give outstanding service for years. Rugged construction and simple design assure a gear with longer life, greater efficiency.

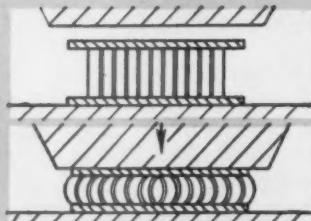
For more information on National Rubber-Cushioned Draft Gears, write for Circular No. 5047. National Malleable and Steel Castings Company, Cleveland 6, Ohio.



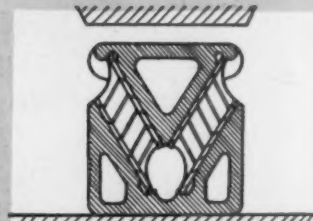
Basic unit in National Type M-380 Draft Gears is this rubber pad bonded between steel plates. Specially compounded rubber cushions the load in two important ways.



Shear loading, which applies force to the edges of each of the two plates, is highly responsive to light shocks, but load that can be applied per cubic inch of rubber is limited.



Compression loading enables the pad to carry much greater loads than the same quantity of rubber in shear, but the deflection and responsiveness are much less than in shear loading.



Combination loading has double advantage. National Rubber-Cushioned Draft Gears, Type M-380, combine sensitiveness of shear loading with capacity of compression loading.

NATIONAL MALLEABLE and STEEL

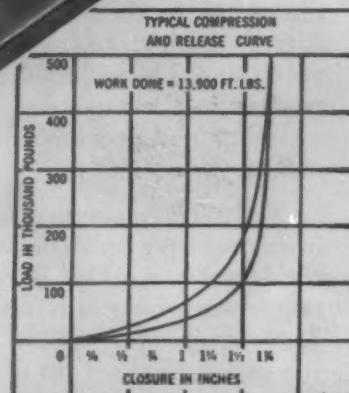
TRUCKS • COUPLERS • YOKES • DRAFT GEARS

DRAFT GEARS

9 out of 10 heavy diesels

TYPE M-380

In National Rubber-Cushioned Type M-380 Draft Gear two pairs of rubber pads cushion loads up to 500,000 lbs.



CASTINGS COMPANY

JOURNAL BOXES AND LIDS



A-2436



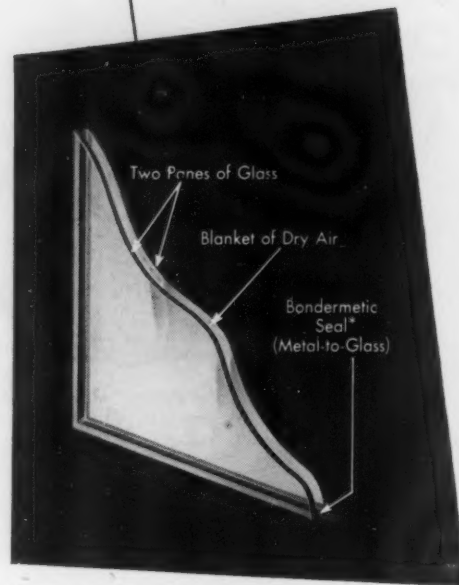
SIXTEEN SYMBOLS...

OF THE TOPS IN TRAVEL COMFORT

Each of these fifteen leading railroad insignia is linked with the sixteenth symbol—the familiar L·O·F shield. In many of their passenger cars you'll find *Thermopane** insulating glass—an active partner in the business of giving passengers better visibility and greater comfort at lower maintenance cost to you.

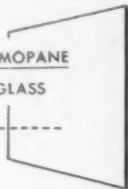
Only *Thermopane* offers such complete freedom from excessive operational expense. This sealed-at-the-factory double glass insulating windowpane requires washing only on the two exposed surfaces. There's no condensation or annoying film between the panes. Take a tip from these "famous fifteen". By providing an always-clear view through *Thermopane*-glazed car windows, you'll build more passenger miles. May we give you more information?

*®



Cutaway view of *Thermopane*

FOR BETTER VISION, SPECIFY THERMOPANE
MADE WITH POLISHED PLATE GLASS



Thermopane

MADE ONLY BY LIBBEY-OWENS-FORD GLASS COMPANY
50105 NICHOLAS BUILDING, TOLEDO 3, OHIO

TODAY

42 LEADING
RAILROADS

**EACH HAS FROM 10 TO
1000 PASSENGER CARS
EQUIPPED FOR SMOOTH
RIDING-COMFORT WITH**

WAUGHMAT

Twin Cushions

TRADE MARK REGISTERED

The most profitable trains on any railroad are its "streamliners" and, almost without exception, cars on these modern, popular trains are cushioned against shock with Waughmat Twin Cushions.

Comfort pays off. Equip all cars for a Twin Cushion ride. Twin Cushions are the lowest cost BIG improvement you can make on any railroad car.

WAUGH EQUIPMENT COMPANY, New York • Chicago • St. Louis • Canadian Waugh Equipment Company: Montreal



- 1 Cellular laminated GPX Plywood construction.
- 2 GPX rigid sub-flooring.
- 3 Unicel's strapping braces flatten down loading more securely to permanent built-in tie downs.
- 4 Curved laminated corners.
- 5 Continuous GPX walls, floors and ceiling provide sanitary corners throughout.
- 6 Outside GPX walls resist weather and are easy to paint.
- 7 Laminated bulldozer end stands up under heavy shocks.
- 8 Laminated bulldozer floor construction takes extremely heavy loads.

Georgia-Pacific's GPX Helped Make These Unicel Advantages Possible:

1. Greater strength because the GPX sides, floors, top and other members are pressure-molded into a single piece in a process involving radio frequency electrical heat—the same principle used in making the "wooden armor" of the "PT" boats.

2. The freight load is hauled by the whole GPX skin of the car—Unicel puts its back into hauling freight, not just its spine as in the case of the "keel" of conventional cars. The construction results in a car that weighs less but carries more than the ordinary freight car.

3. The Unicel car is cheaper and quicker to make, easier to maintain, and saves 20 tons of steel per car because of the GPX construction. Its steel weight is

only 35,000 pounds, nearly all of it in the undertruck.

4. There is no localized vibration in Unicel because of the rigid, molded construction. There are no yield points, therefore ordinary deterioration is not possible.

5. Unicel's GPX floors and walls cannot contaminate dairy or other foodstuff loads. All the GPX plywood joints are tightly sealed, eliminating all chance of dirt, germs or bacteria lodging in cracks.

6. There is no rust factor to contend with in Unicel because there is no condensation. GPX walls and floors also supply a higher type of thermal efficiency for refrigeration. The smooth GPX interior offers no outjutting members to damage freight.



●● THE FREIGHT CAR THAT HAULS WITH ITS SKIN

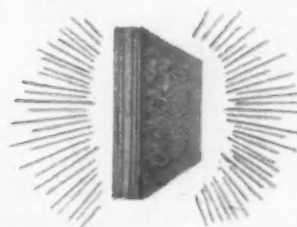
...another GPX Adventure in the Impossible!

GEORGIA-PACIFIC'S amazing GPX plastic-faced plywood enabled Pressed Steel Car Company to make the car railroad men said couldn't be made—the revolutionary new Unicl combination refrigerator-box car. A totally new railroad engineering concept was employed where the entire skin of the car works in hauling freight instead of most of the burden be-

ing carried by the "keel" as in the conventional freight car.

The GPX floor, sides, top and other members were molded together—fused fast with phenolic plastic glues under terrific pressure and electrical heat. The result was a tremendously strong freight car which is cheaper and quicker to build and which uses only 35,000 pounds of the critically needed steel supply.

Write today and learn how GPX, the amazing plastic-faced plywood, can help you do many jobs at lower cost.



Other Georgia-Pacific Products

Treated lumber and timbers
Cross ties and switch ties
Fir and Hardwood doors
Hardwood plywood and veneers
Douglas Fir plywood
Poles and pilings

Douglas Fir lumber and timbers
Western and Southern Mouldings
Giant-sized Scarfed panels
Southern Pine car lumber
Gum and Oak crossing plank



Railroad Sales Department—332 South Michigan Ave., Chicago 4, Ill.
Wholesale Distribution Yards: Boston • Chicago • Philadelphia • Port Newark

One of America's Largest Shippers of Plywood and Lumber



THE HIGHEST AWARD
IN

Railroad Safety

PLUS A GREAT
WILL FOR BETTER

Railroad Service



For the fifth time the Norfolk and Western has been awarded the coveted Harriman Memorial Gold Medal—the highest honor in railroad safety.*

This achievement is the result of the N. & W.'s continuing program to build a better railroad with *safer* operating methods . . . constantly-improved, *safer* facilities . . . and the willingness through the years to spend millions of dollars for an increasingly-efficient, *safer* railroad plant. PLUS—the will of dependable, level headed employees to serve the railroads' customers to the best of their ability—in peace and in war.

During the twelve years, 1938-1949, inclusive, the N. & W. carried 32,879,700 passengers a total of 4,597,621,431 passenger

miles without a single fatality to a passenger in a train accident. In employee safety, during the same period, the casualty rate was 4.27 per million man-hours worked, which was 58% below the national average. Since 1913, when a planned safety program was started, progress in accident prevention on the N. & W. has resulted in saving 1,269 employees' lives and the prevention of 50,745 employee injuries.

*The N. & W. has been awarded the Harriman Memorial Gold Medal for the best safety records of the larger railroads for the years 1949, 1947, 1940, 1938 and 1926.



Norfolk and Western Railway



**sure sign
of a
smooth ride**



Luxurious riding comfort—that's the key to profitable passenger traffic, and riding comfort starts with springs, properly designed and correctly made like those fabricated by Alco's Railway Steel-Spring Division.

Also important are the contributions RAILWAY STEEL SPRINGS make to safety, durability and to maintenance economy of the entire equipment. Alco's years of experience plus advanced engineering in modern rail equipment design are your guarantees of top performance and service every time you specify RAILWAY STEEL SPRINGS.



SPRINGS

Call your Alco sales representative in—

New York • Cleveland • Chicago • St. Louis • St. Paul • San Francisco

RAILWAY STEEL-SPRING DIVISION • AMERICAN LOCOMOTIVE COMPANY

Repeat performance

for Two fine



Trains

BOTH with Cars by

A.C.F.

**and Extra Comfort by
Heywood-Wakefield**

Heywood-Wakefield "Sleepy Hollow" Model 820 seats are installed on all American Car and Foundry Company coaches of the new Red River Limited. Seat has individual footrest for each passenger.

Heywood-Wakefield seating proved so satisfactory on other modern streamliners of the Great Northern Railway that it was selected for two additional trains, the "International" and the "Red River Limited."



HEWYWOOD-WAKEFIELD seating can make your modernization program more successful in terms of passenger satisfaction—just as it is doing for the Great Northern and other progressive railroads which are using this in-service proved seating aboard new or modernized equipment.



Transportation
Seating Division
Gardner, Mass.



In the American Car and Foundry Company parlor cars of the International, Heywood-Wakefield Model 202 Chairs provide luxurious relaxation. Note how flexibly the chair upholstery can be varied to harmonize with the car's decoration.

Like those of the Red River Limited, the coaches built by American Car and Foundry Company for the International are designed to create an atmosphere of spacious luxury. The Heywood-Wakefield "Sleepy Hollow" Model 820 seats can be adjusted to provide tailor-made comfort for each passenger.





A progressive Wabash modernization program brings you swift, safe, comfortable travel on 16 diesel-powered trains—including three streamliners with completely new equipment. New Pullmans, with roomettes and bedrooms, are now on overnight

Wabash trains, offering you greater convenience, comfort and privacy. Coaches and diners have been improved to keep in step with other Wabash progress. Whether your journey for business or pleasure, you'll find a bigger travel value on the Wabash today.



ROOMETTES, now available on Wabash overnight trains, will bring you new comfort and complete privacy.



BEDROOMS, like fine hotel accommodations can be yours on most Wabash overnight trips.



COACH COMFORT has been stepped up on the modern Wabash coaches having "Sleepy Hollow" seats. Here's luxury at low cost.



SUPERB FOOD, in delightful surroundings, awaits you on modern Wabash Diners. Reasonable prices, too!

DIESEL-POWERED WABASH TRAINS

Both ways daily between...

St. Louis and Detroit
The Wabash Cannon Ball
The St. Louis Limited
The Detroit Limited

St. Louis and Chicago
The Banner Blue
The Blue Bird
The Midnight

St. Louis and Kansas City
The Streamliner "City of Kansas City"
The Streamliner "City of St. Louis"
The Midnight Limited

**St. Louis, Kansas City
Denver and the West Coast**
The Streamliner "City of St. Louis"

T. M. HAYES
Passenger Traffic Manager
1495 Railway Exchange Building
St. Louis 1, Missouri



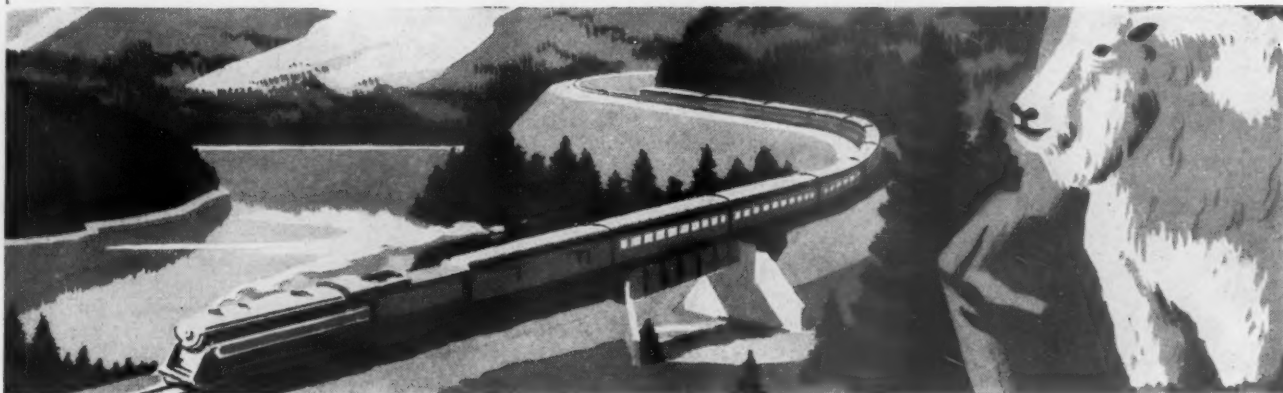
MODERN SERVICE IN THE HEART OF AMERICA

WABASH RAILROAD

Wonderful scenery and service...

all across the wonderland of Canada!

Canadian Pacific style



Passengers thrill to the scenery. From salty "down east" Canada...St. Lawrence valley...across the Great Plains...and over the towering Canadian Rockies to the Evergreen Playground in British Columbia—the scenery is magnificent. Vacations to suit every taste...historic sites...religious shrines...sporting centers...scenic wonderlands. All are served by smooth-rolling Canadian Pacific trains.

Passengers bask in the service. Old-world courtesy and hospitality are traditional with Canadian Pacific. Aboard the swift, comfortable trains, accommodations are modern...air-conditioned...completely relaxing. In the nineteen Canadian Pacific hotels and lodges located at famous scenic and sporting centers, the heart-warming hospitality is unsurpassed...the meals and rooms perfect!



Across Canada...any time of year...

go *Canadian Pacific*



Winning LCL Back to the Rails with the ERIE's "Flying Saucer" Service

"Progressive railroading" is the Erie watchword for their new "Flying Saucer" service. Precise timing of pick-up, car loading, car movements, train schedules and final shipment delivery—all are co-ordinated into a fast, efficient service: a *competitive* service that is winning friends for the Erie.

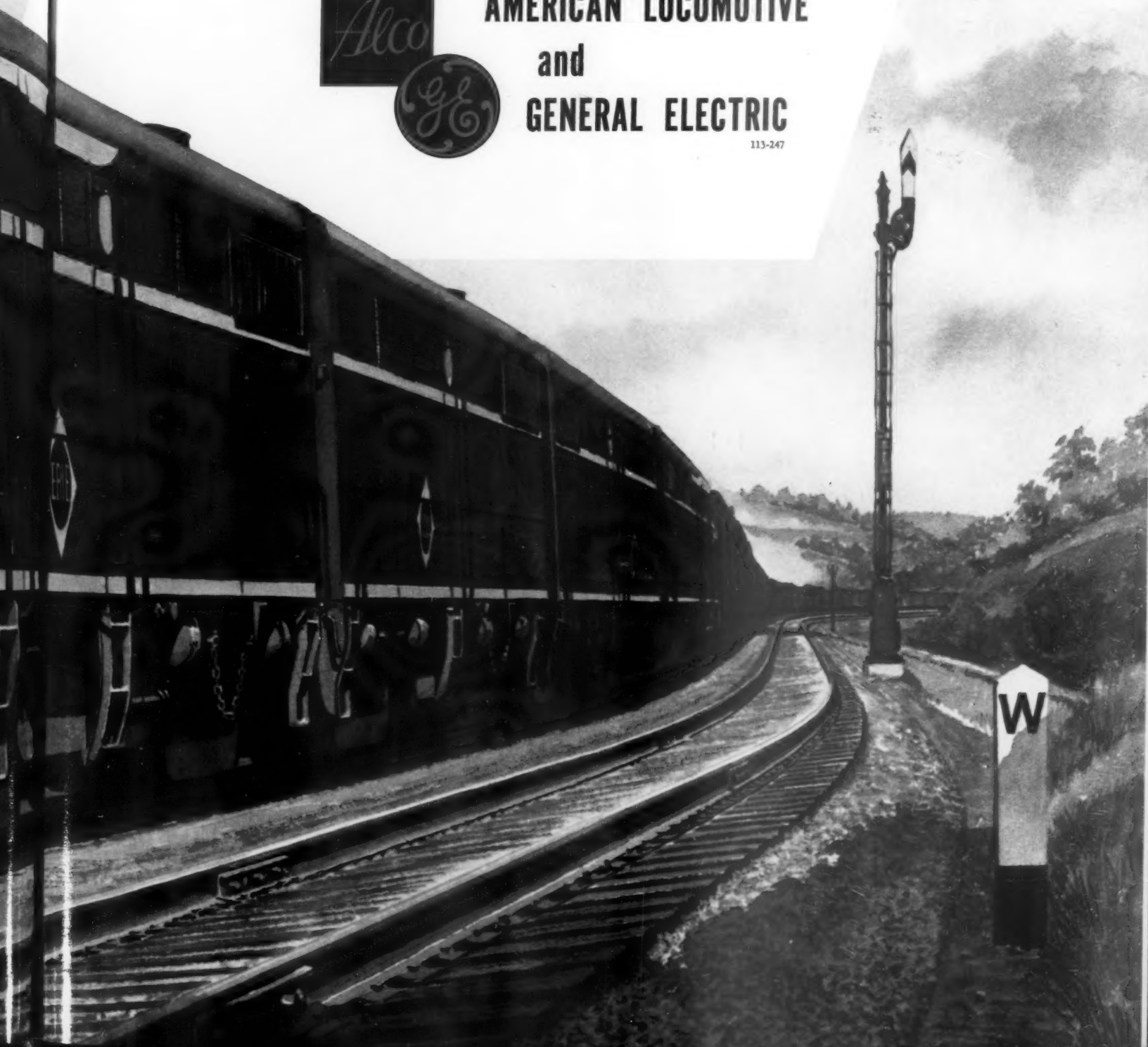
As a result, LCL and forwarder freight shippers are turning in increasing numbers to the Erie. Second morning delivery in the New York-Chicago service (30 hours elapsed running time) is the challenging competitive factor that is revitalizing the Erie's LCL traffic.

Powerful ALCO-GE freight diesel-electrics are a vital cog in this smooth-working operation. They typify the up-to-date methods and equipment that the Erie and other leading railroads are using to lead the way in the heavy competition for LCL business.

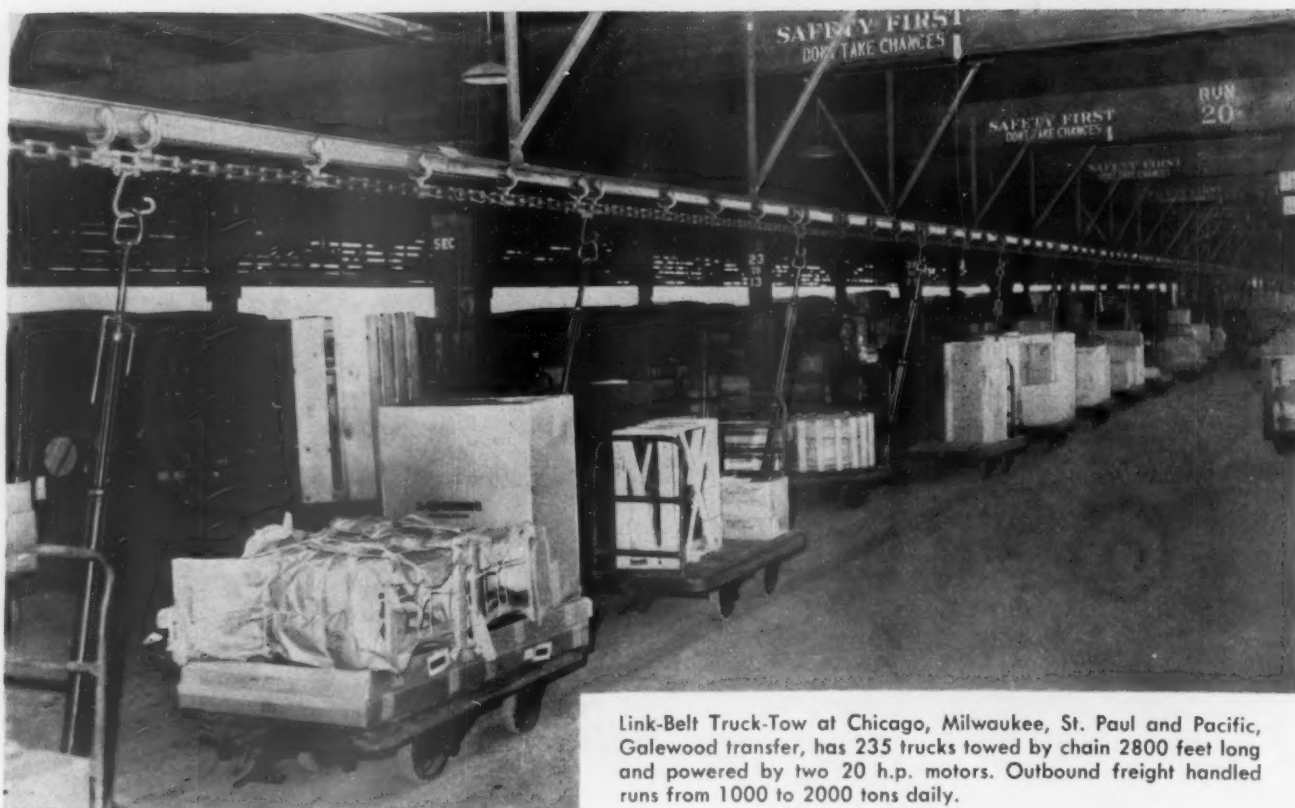


AMERICAN LOCOMOTIVE
and
GENERAL ELECTRIC

113-247



Faster L. C. L. Handling with **LINK-BELT "TRUCK-TOW"** Cuts Costs "Across the Board"



Link-Belt Truck-Tow at Chicago, Milwaukee, St. Paul and Pacific, Galewood transfer, has 235 trucks towed by chain 2800 feet long and powered by two 20 h.p. motors. Outbound freight handled runs from 1000 to 2000 tons daily.

OUTSTANDING BENEFITS OF **LINK-BELT** TRUCK-TOW SYSTEM

- Loss and damage claims substantially reduced.
- Shipments move through terminal quickly.
- Working conditions greatly improved.
- Congestion reduced to a minimum.
- Towing speeds can be regulated to suit conditions.
- Handling capacity of facilities increased.
- Promotes safety.

The installation of this Link-Belt Truck-Tow at the Galewood transfer resulted in speedier, safer handling of L.C.L. freight, reducing over-all costs in transfer time, loss and damage claims and delays to shipments that total a substantial sum. Capacity of the transfer has been considerably increased. Week end hold-overs, due to last of the week and late deliveries, have been greatly reduced.

Truck traffic is in one direction, requiring only one traffic lane; thereby affording more platform working area.

Ask for Book 2330; learn how Link-Belt Truck-Tow Conveyor can save time and money for you and your shippers.

LINK-BELT COMPANY

Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Johannesburg. Offices in Principal Cities.

LINK-BELT
TRUCK-TOW
Conveyors

Mid-afternoon...



and this freckle-faced youngster is at her post

...watching

'Most any afternoon you can see her there . . . wistful eyes following the trim lines of a diesel-powered Rock Island ROCKET. Smoothly, quietly it speeds westward to distant cities and regions of enchantment. They're dream places to her now, but there will come a day when this young lady will board a ROCKET . . . and then her dream places will become happy realities. And she will experience the pleasure of train travel as fine as it's possible to make it!

Rock Island ROCKET Fleet
—for America When It Travels

PEORIA ROCKET—Chicago-Peoria
DES MOINES ROCKET—Chicago-Des Moines
CORN BELT ROCKET—Chicago-Omaha
ROCKY MOUNTAIN ROCKET—Chicago-Denver-Colorado Springs
TWIN STAR ROCKET—Minneapolis-St. Paul-Kansas City-Houston
TEXAS ROCKET—Kansas City-Oklahoma City-Fort Worth-Dallas
ZEPHYR ROCKET—Minneapolis-St. Paul-St. Louis
CHOCTAW ROCKET—Memphis-Oklahoma City
... also the GOLDEN STATE—(extra fare) Chicago-Kansas City-Phoenix-Los Angeles

For information on Passenger Service, consult A. D. Martin, Gen. Pass. Traffic Manager, Rock Island Lines, 723 La Salle Street Station, Chicago 5, Ill.

Rock Island Lines



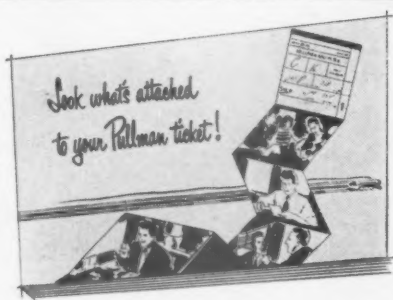
New Pullman Sales Promotion Pieces Praised by R. R. Passenger Men

Judging by the letters and requests received to date, the new Pullman sales promotion pieces are headed for some heavy traffic.

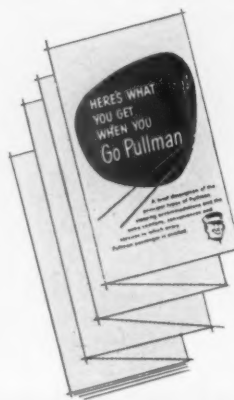
Literally thousands of individual orders have already come in from railroad ticket agents, reservation offices, travel agents, industrial managers, and hotels. Distribution of

hundreds of thousands of the pieces is progressing rapidly.

The program is designed to sell railroad travel at its best to a wider segment of the traveling public than ever before. The pieces shown below, if used consistently over a period of time, should help further this end.



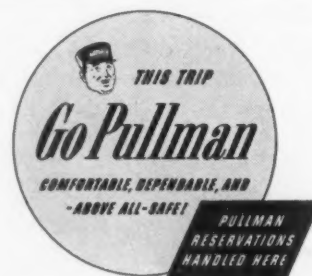
The Accommodations Booklet. A handy personal reference for railroad ticket agents and travelers. Pictures and describes Pullman accommodations. The comforts, conveniences and services offered to 1st class travelers are also included.



The Accommodations Folder. A more condensed version of the booklet designed for free distribution to the traveling public. Pullman accommodations pictured and described. Highlights of 1st class travel presented.



The Accommodations Poster. A large, full-color poster showing "14 Wonderful Ways to Go Pullman". Designed to help sell travelers on going Pullman. For railroad ticket offices, reservation bureaus, terminal bulletin boards and other high traffic spots.



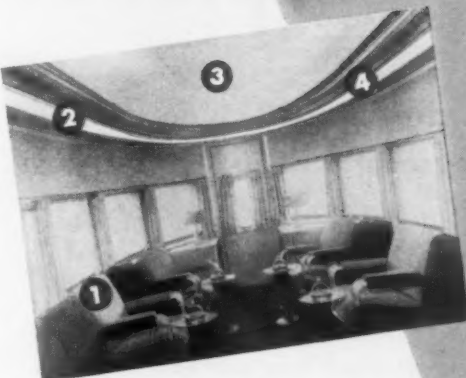
The "Go Pullman" Sticker. A small, colorful eye-catching reminder to "Go Pullman —Comfortable, Dependable and—above all—Safe!"

The Pullman Company

Where service is everybody's business!

COPYRIGHT 1950, THE PULLMAN COMPANY

Analyze your car interior from...



your PASSENGERS' point of view...

① Adequate Footcandles:

Luminator Engineered lighting systems provide the high intensity light necessary for comfortable reading. This is one of several factors required for "eye comfort" lighting.

② No Glare:

Eye discomfort resulting from excessive brightness or "glare" in the normal range of vision can spoil an otherwise perfect lighting system.

③ General Illumination:

In addition to the above requirements, adequate general illumination is required to make an inviting and cheerful interior. This is a very important factor.



④ Light Location:

For the most effective use of light available, the direction of light must come from overhead, falling at right angles to the reading material.

Other Applications:

In the Dining Car, Coach and Observation Cars illustrated above, it is easy to follow the principles of engineered lighting. These same principles can be used in lighting any other type of cars, such as Pullmans, Suburban Cars, etc.

We invite you to inspect our lighting laboratories, where engineered lighting systems are displayed.

LIGHTING ENGINEERS • DESIGNERS • MANUFACTURERS
LUMINATOR inc.

120 NORTH PEORIA ST., CHICAGO 80, ILLINOIS
IN CANADA RAILWAY AND POWER ENGINEERING CORP.



Acceptance

...by the public is not achieved overnight...it is the final seal of approval placed on the results of long and careful planning.

Seaboard has earned acceptance for its fleet of Silver Streamliners because the traveling public appreciates a sincere effort to provide modern equipment, convenient schedules and courteous service.



SEABOARD
AIR LINE RAILROAD

THE ROUTE OF COURTEOUS SERVICE

at the mid-century



looking back . . .

During the past 63 years "St. Louis-built" cars have performed hundreds of thousands of passenger-miles on the American railroads, contributing progressively to the advances in efficiency, comfort, and luxury of passenger-carrying equipment of all types.

*"St Louis
Built"*

looking forward . . .

In the decades ahead, "St Louis-built" cars will continue to provide railroad customers with rolling stock of the highest quality in materials and workmanship, designed by St. Louis engineers to incorporate every advance for passenger appeal. The diversified resources of the St. Louis Car Company, its extensive shop facilities and seasoned technical experience, will continue to serve American railroading.



Our "60 humming acres"

St. Louis Car Company

St. Louis,
Missouri
U.S.A.

Executive Offices & Plant
St. Louis

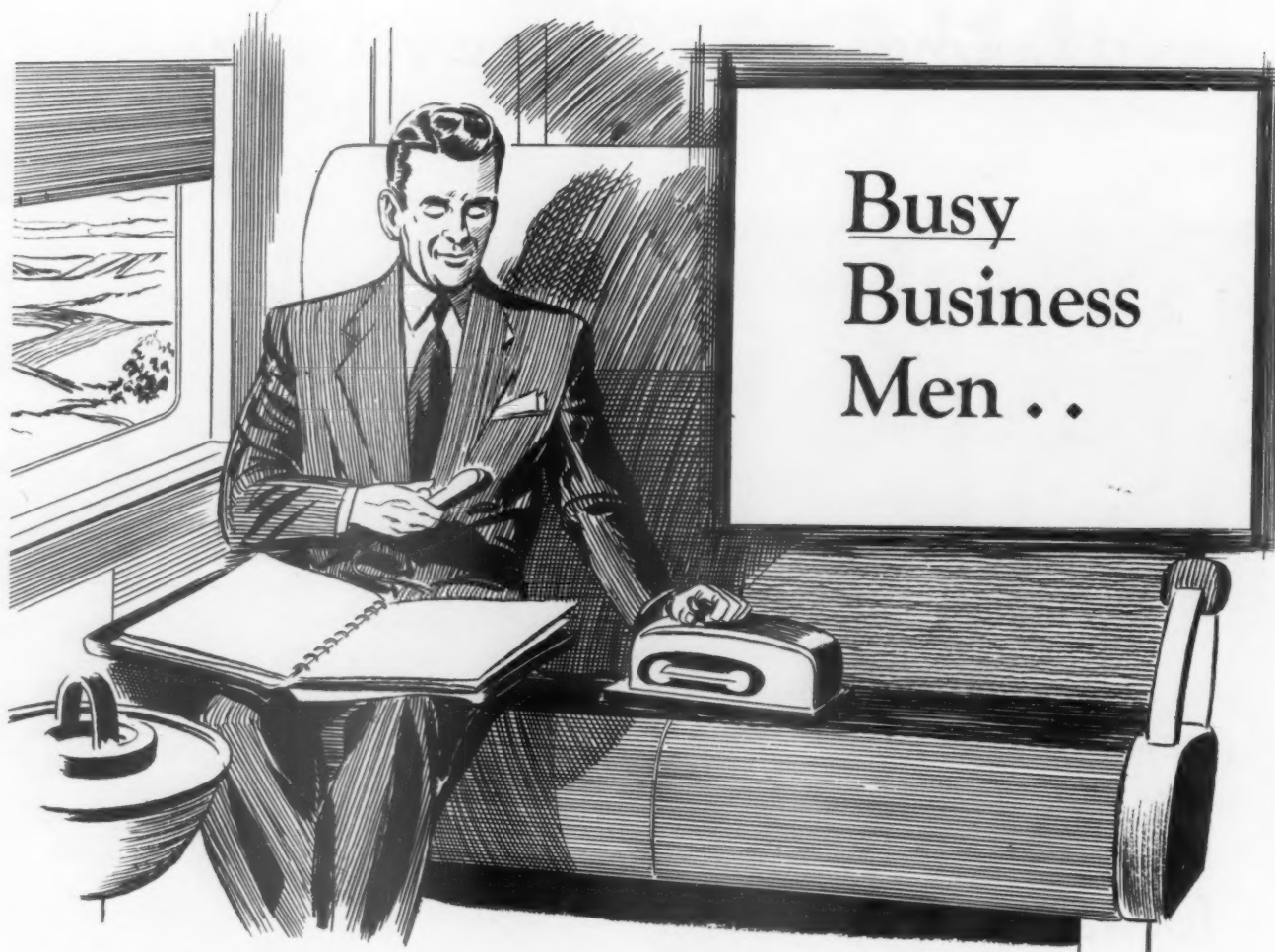
New York Office
165 Broadway

Detroit Office
424 Book Bldg.

San Francisco Office
Monadnock Bldg.

Washington Office
Tower Bldg.

Cleveland Office
606 Williamson Bldg.

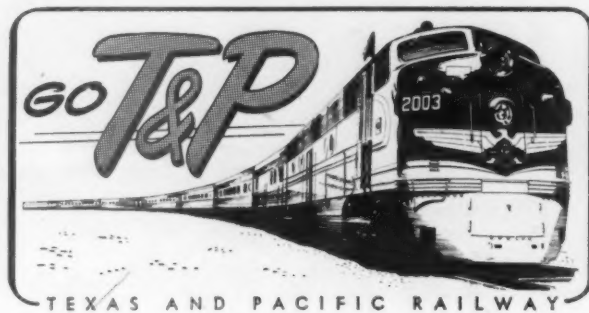


can work while they ride.. ON THE EAGLE!

WHEN you need to work while you ride, you'll find the Eagle an "office on wheels"—get in valuable hours of work while you speed to your destination. You'll appreciate the individual roomettes and bedrooms where you can have complete privacy and room to work.

And if you have dictation you need to complete, you'll appreciate this Eagle convenience—dictating equipment can be plugged in with no special connections. You arrive with no lost business time—ready to meet your appointments.

You'll arrive rested and refreshed, too, for the Eagle has every accommodation for comfort and relaxation. Yes, business men are putting their stamp of approval on the Eagle... and you will too, when you discover it's the perfect way to travel *and* work!





MY... HOW TIMES CHANGE!

Until 1910 the railroad traveler seeking a refreshing drink of water had no choice but to share a common cup with everyone else on the train.

But 1910 marked an innovation of no small import to traveling comfort and niceties . . . the introduction of paper Dixie Cups. They were instantly acclaimed "a boon to health protection and sanitary convenience."

TODAY... IN 1950

. . . Dixie Cups have seen 40 years of recognized service on the railroads. Indeed, Dixies are a standard in railroading.

To the traveler on the modern trains of today Dixies are like old friends. For everyone confidently knows a Dixie Cup is always clean . . . always safe.



There are
No Substitutes for GENUINE

DIXIE CUPS

... most widely Advertised

... most Popular of All paper cups



"Dixie" is a registered trade mark of the Dixie Cup Company

DIXIE CUP COMPANY

Easton, Pa.

CHICAGO, ILL., DARLINGTON, S. C.
FT. SMITH, ARK., BRAMPTON, CANADA

YOLOY

IS THE WORD FOR PROGRESS in modern Passenger Car Construction

YOLOY is Youngstown's high-strength nickel-copper low alloy steel. It is available in plates, sheets, strip, bars, shapes, cold drawn bars, seamless and electric weld pipe.

Used for more than ten years in both passenger and freight car construction, Yолоy continues to demonstrate its value for railroad purposes as a weight-saving, long-lived material of construction. Six outstanding characteristics suggest the use of Yолоy for car construction.

1. TENSILE STRENGTH--This property of Yолоy has led to its use for literally scores of applications, to reduce dead weight for increased payload without sacrifice of strength. Car builders report as much as 20% to 25% or more weight saving with Yолоy, as compared to carbon steel.

2. CORROSION RESISTANCE--Repeated tests on a variety of carbon and alloy steels show that the Yолоy type steel stands up unusually well when exposed to the action of marine and industrial atmospheres and other corrosive conditions common to railroad service. In actual service, Yолоy bears out this test-demonstrated ability to resist corrosion.

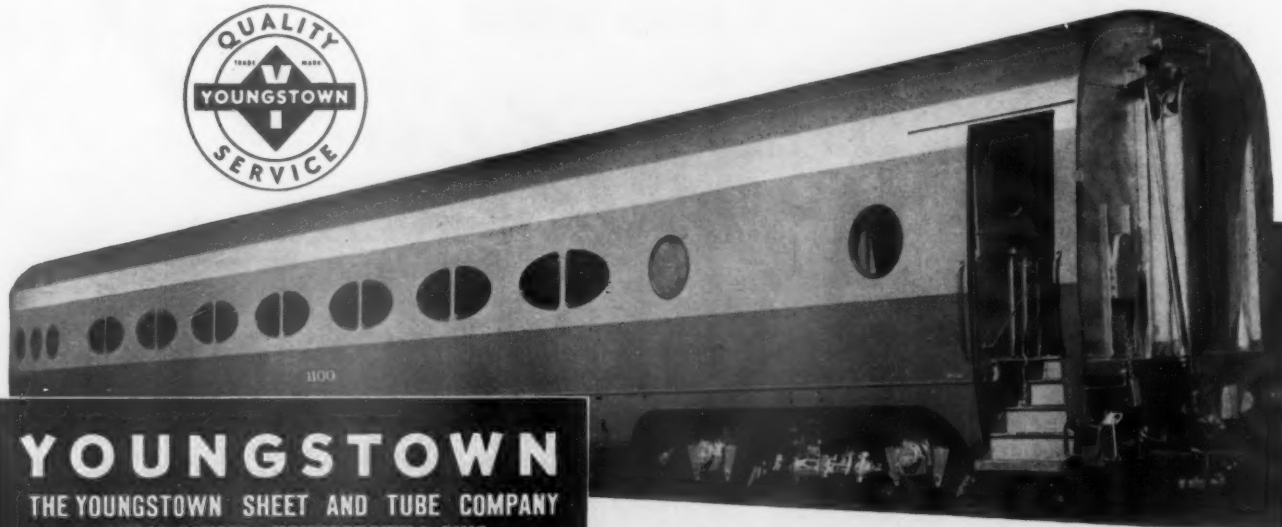
3. SHOCK RESISTANCE--Standard impact tests as well as performance in service prove that Yолоy retains a marked ability to resist shock, even at the lowest temperatures met in normal service.

4. ABRASION RESISTANCE--Yолоy's toughness enables it to withstand wear and rough treatment through a long lifetime of dependable service.

5. FORMING QUALITIES--Because of its uniformity and its well balanced ductility, high-tensile strength Yолоy works excellently, without weakening or breaking, on angle bends and in involved forming operations.

6. WELDABILITY--Yолоy's unique physical properties, derived from a balanced combination of chemical elements, reduce air hardening to a minimum. Yолоy welds as readily as most carbon steels of the same carbon and manganese content.

Yолоy deserves your careful consideration for modern, streamlined passenger car construction, as well as for any work where weight-saving without loss of structural strength is a prime factor. If you are not familiar with Yолоy steel, let our representative give you the facts.



YOUNGSTOWN

THE YOUNGSTOWN SHEET AND TUBE COMPANY

GENERAL OFFICES - YOUNGSTOWN 1, OHIO

Export Offices - 500 Fifth Avenue, New York City

Manufacturers of

CARBON - ALLOY AND YOLOY STEELS

Sheets - Plates - Pipe and Tubular Products - Bars - Rods -
Wire - Cold Drawn Carbon Steel Rounds - Tie Plates and
Spikes - Conduit - Electrolytic Tin Plate - Coke Tin Plate

A modern coach, built for one of the western roads. Yолоy construction reduced the dead weight load more than 20%.

WHITCOMB *Hydro-Motive*



Whitcomb 25-Ton Diesel Hydro-Motive Locomotive handles a train of hot metal ladles at the open hearth of Crucible Steel Company of America.

MEANS . . .

- LOWER MAINTENANCE COSTS
- LONGER LOCOMOTIVE LIFE
- EASIER OPERATION
- SMOOTHER HANDLING

MOVES MORE MATERIALS, LONGER, FOR LESS

The Whitcomb Hydro-Motives give you greater value every way. You get the smooth-flowing power of an electric drive at far less cost with a Whitcomb Hydro-Motive. And maintenance costs are lower, too, because wearing, jarring road bed shocks are *not* transmitted to the engine. Instead the jolts are absorbed in the fluid coupling of Whitcomb's Hydro-Motive. Thus, locomotive wear is cut down, locomotive life lengthened.

But economy is only one advantage of the Whitcomb Hydro-Motives. They reduce operator-fatigue, reduce

accident risks, because there is no lunging, no shifting — power is smooth, instant, uniform at any speed.

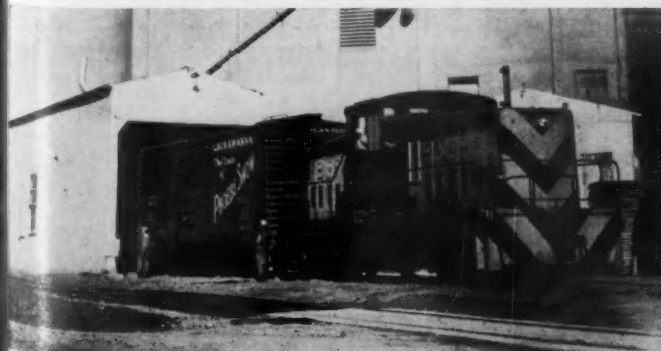
And the Hydro-Motive locomotive is every inch a Whitcomb — which means the finest in engineering, in materials, in workmanship. Replace your present outdated locomotives with smooth, new Whitcomb Hydro-Motives.

Write today for complete information on Whitcomb Hydro-Motive Locomotives, in sizes from 10 to 40 tons.

Fast-paced Whitcomb Diesel electric switcher spotting empties at Sheboygan, Wisconsin's K. Schreier Malting Co.

Whitcomb Diesels offer quick, easy access to all working parts.

There's no power more economical than Diesel; no locomotive finer than a Whitcomb.





THE WHITCOMB LOCOMOTIVE CO.
ROCHELLE, ILLINOIS

Subsidiary of
THE BALDWIN LOCOMOTIVE WORKS

SWITCH to lower handling costs NOW!

HIGH HANDLING COST is the biggest single factor working against the overall economy program of American railroads. For handling jobs are so numerous and so diversified, complete control of time element is difficult to achieve.

On the other hand, wherever railroads apply timetable efficiency to their handling problems, substantial savings become apparent almost at once. Yale Trucks, Hoists and Scales are contributing greatly to this in-

creased efficiency for many railroads. For these modern tools speed handling operations tremendously in passenger and freight stations, stores departments, round houses and back shops.

You want lower handling costs all along your line. Our nearest representative will gladly show you how Yale Material Handling Machinery is helping other railroads save money "around the clock"—and how you can do the same. Phone or write him today.

THE YALE & TOWNE MANUFACTURING COMPANY

Department L-169

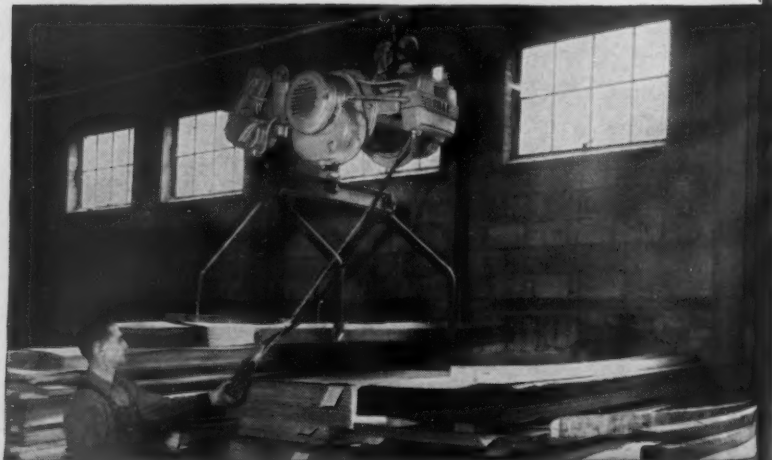
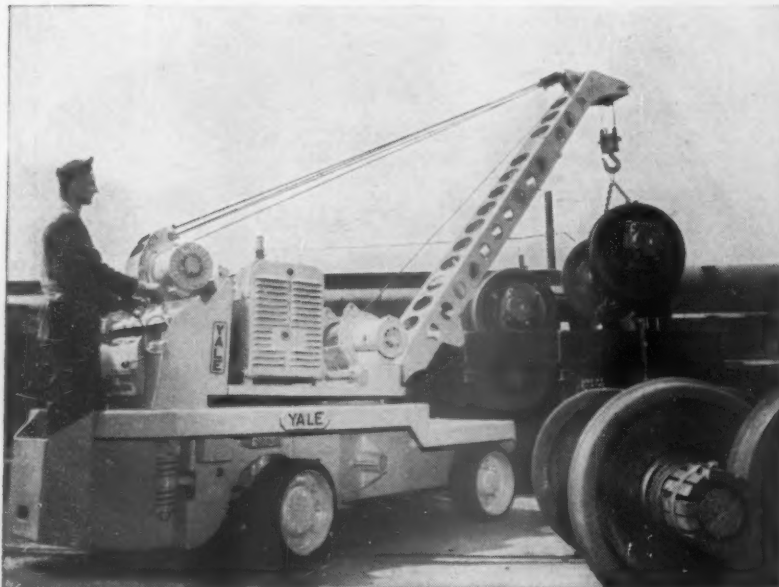
Roosevelt Boulevard

Philadelphia 15, Pa.

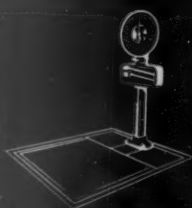
Chicago 1, Ill.
Cleveland 15, Ohio
New York 17, N. Y.
San Francisco 5, Calif.
St. Louis 1, Mo.
St. Paul 4, Minn.
Washington 5, D. C.

The Earl E. Thulin Co.
T. C. Johnson Co.
Eastern Railway Supplies, Inc.
Overland Supply Co.
Clarence Gush
Robert J. Wylie
Ralph W. Payne

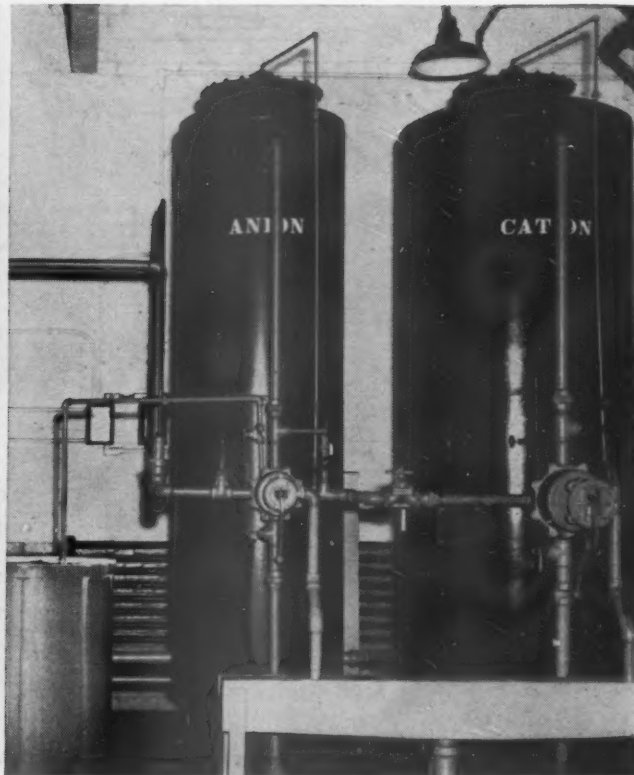
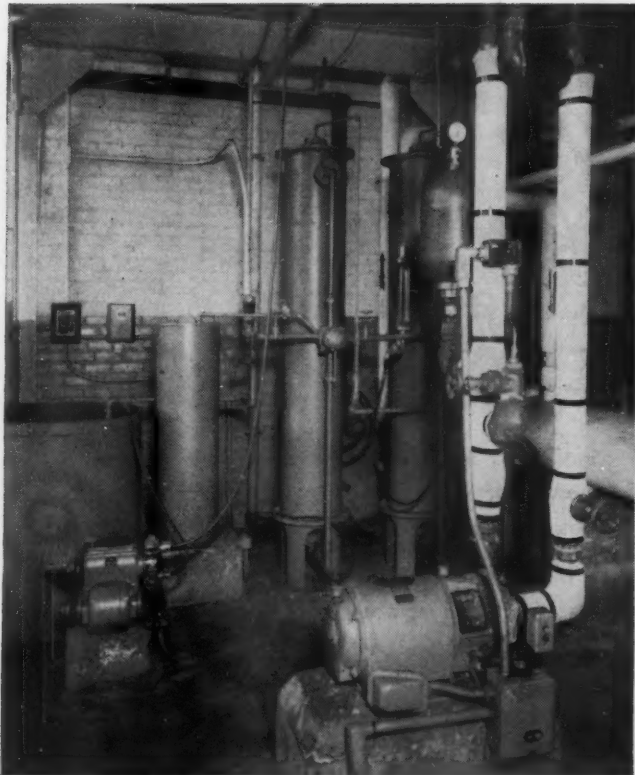
Suite 339, Hotel Sherman
923 Midland Bldg.
110 East 42nd Street
55 New Montgomery St.
Railway Exchange Bldg.
612 Pioneer Building
Metropolitan Bank Bldg.



YALE
TOOLS THAT KEEP
INDUSTRY "ON THE MOVE"



SCALES—Industrial • HOISTS—Hand and Electric • TRUCKS—Hand Lift • Electric • Gasoline • Diesel



Low Cost MINERAL-FREE WATER WITH A DEARBORN DE-IONIZING SYSTEM

A Dearborn De-Ionizing system—built to the specific needs of your railroad—will provide all the mineral-free water you need . . . and at less than 10% the cost of distilled water.

This mineral-free water, when conditioned with Dearborn formula 517, will provide proper Diesel cooling to eliminate mechanical failure of liners, heads and blocks. This combination will protect cooling systems of engine-driven auxiliary generators and radiators of trucks, buses, scrapers, graders, caterpillars. Dearborn De-Ionizing sys-

tems will also produce mineral-free water for storage batteries and adequate supplies of scale-free, non-corrosive water for Diesel steam generators.

Investigate a Dearborn De-Ionizing system. The only information needed is: (1) analysis or sample of raw water supply; (2) quantity and quality of mineral-free water required; (3) available space for equipment; (4) raw water pressure and size of supply; (5) available power characteristics.



HAVE YOU REQUISITIONED YOUR DEARBORN CHROMOKIT?

It provides the only fast, simple, accurate and economical way to determine the chromate content of your Diesel cooling water. Only \$7.50 each.

INFORMATION ON DE-IONIZING SYSTEMS

A copy of "Dearborn De-Ionizing Systems," containing valuable information about how to secure the mineral-free water you need, will be sent on request.



DEARBORN CHEMICAL COMPANY
310 S. Michigan Ave. • Chicago 4, Ill.

Dearborn

TRADE MARK REGISTERED

THE LEADER IN WATER TREATMENT AND RUST PREVENTIVES

Dearborn Chemical Company
Dept. RA, 310 S. Michigan Ave.
Chicago 4, Ill.
Gentlemen: () Please send booklet
"Dearborn De-Ionizing Systems."
() Have a Dearborn engineer call.

Name.....

Company.....

Address.....

City.....State.....

"Thoroughbreds of the Rails"

FLEET 3-YEAR OLDS HAVE Carried Over ONE MILLION PASSENGERS



The weather is always "fair"—the track always *fast* as far as the performance of Central of Georgia's crack thoroughbreds is concerned.

Man o' War and Nancy Hanks II, the Central's famous short-run streamliners, are continuing to roll up impressive records. In slightly over three years of operation, these modern trains carried 1,056,641 revenue passengers and clocked one and a quarter million miles.

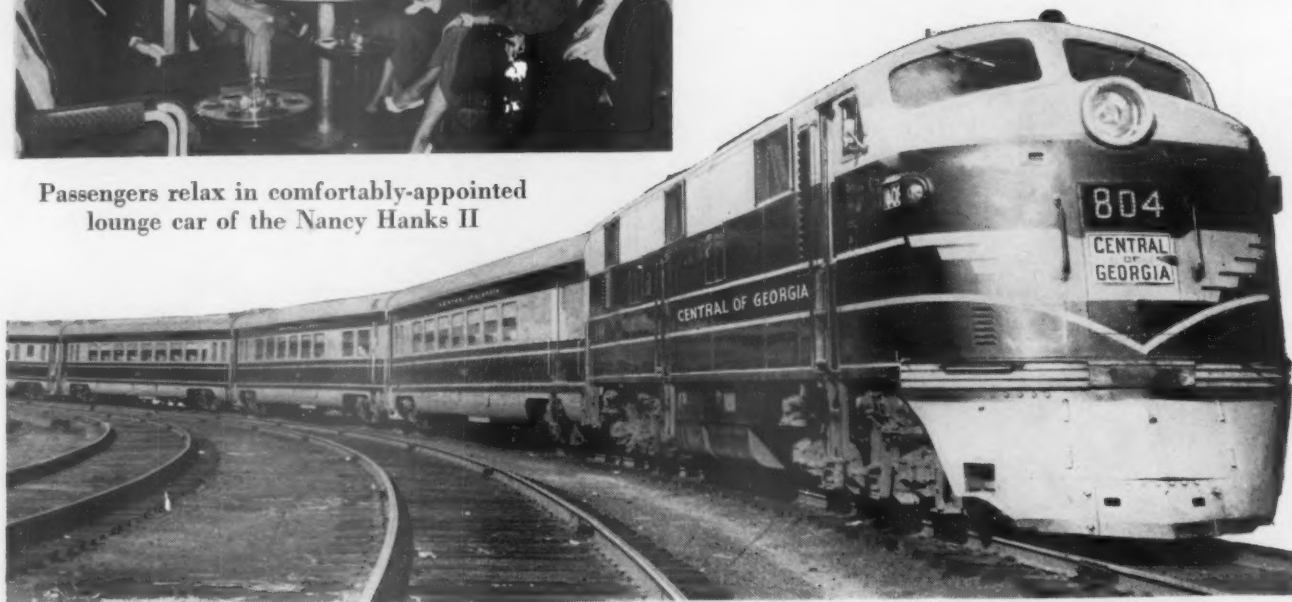
The names of these popular streamliners have become household words in the communities they serve. Perhaps this is the best indication of the kind of transportation job they are doing.



Passengers relax in comfortably-appointed lounge car of the Nancy Hanks II

CENTRAL OF GEORGIA *Railway*

A GOOD FRIEND ALL ALONG THE LINE



Enter Great Northern's "NAME THE TRAIN" Contest

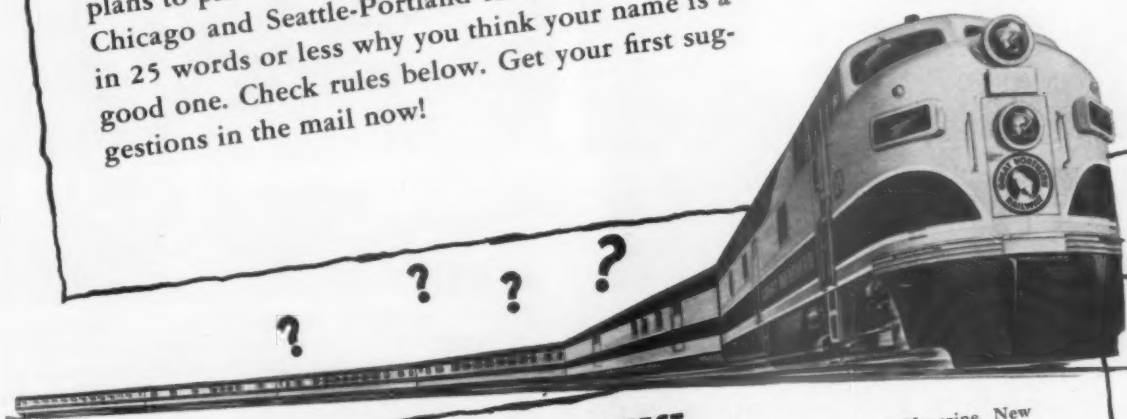
● You could use an extra \$500.00! Who couldn't! Take a tip and enter Great Northern's novel "Name the Train" Contest, limited to people in the railway travel business! Here's a contest designed especially for you. Just submit your name suggestions for a modern, streamlined train Great Northern plans to place in transcontinental service between Chicago and Seattle-Portland in 1951. Then tell in 25 words or less why you think your name is a good one. Check rules below. Get your first suggestions in the mail now!

a contest especially
for YOU!

\$500.00

ONLY ONE PRIZE

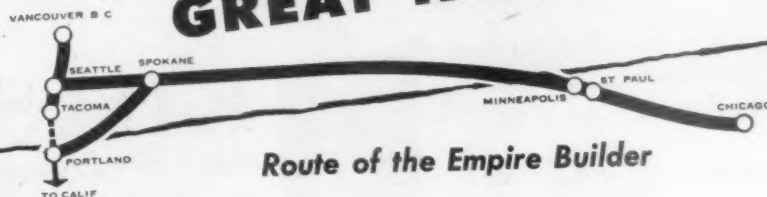
Send as many entries as you wish



RULES OF CONTEST

- 1 Contest open to railway ticket agents, employees of reservation bureaus, ticket sellers in stations and depots, employees of recognized travel and tourist agencies in the United States and Canada. This contest is not open to Great Northern employees.
- 2 To enter contest, simply write down name you suggest for a streamlined, all-modern Great Northern train to be used in transcontinental service (Chicago to Seattle-Portland). Write 25 words or less on why you believe the name is a good one. Enclose your name, company affiliation, title or job description and your address.
- 3 Mail entries to Great Northern Railway, Name the Train Contest, 175 East Fourth Street, St. Paul 1, Minn.
- 4 Contest closes at midnight, November 30, 1950. Entries postmarked prior to that time will be accepted.
- 5 Judges will be: Irving F. Lyons, Pres. National Industrial Traffic League, San Francisco; Frank J. Rebhan, Pres. National Assn. Shippers Advisory Boards, Denver; Albert Kalmbach, Publisher, Trains Magazine, Milwaukee;
- 6 Decision of judges will be final. If two or more contestants submit the same name, and that name is judged winner, final decision will depend on 25-word statement of reasons. In case of ties, duplicate awards will be made.
- 7 Contest entries become exclusive property of Great Northern. They will not be returned. Great Northern reserves the right to use or not to use the prize-winning name or any contest entries for its transcontinental train or any other train.
- 8 Winner will be notified by mail. Announcement of winner will also be made in this magazine in early 1951.
- 9 Entries will be judged on suitability, availability and quality of reasons for the name-suggestion. Entries not accompanied by a statement of reasons, or not accompanied by name and address, will be disqualified.
- 10 Contestants may submit as many names as they wish. Each entry must be mailed separately and each entry must be accompanied by a statement of reasons.

GREAT NORTHERN



1900-1950

A brief history—devoted primarily to LONG LIFE
—of the 50 years since Thomas A. Edison decided to
search for “nature’s secret of a good storage battery.”



Old: This battery is typical of old-style assemblies. The photo was made in the spring of 1950. The battery was new in 1912. Total service life to date, 38 years.



New: Battery assembled in roll-out cradle. A complete battery for a 110-volt car usually consists of four assemblies like this, two of 20 cells each, two of 25 cells each.

“In 1900 . . . Edison resolved to work on a new type of storage battery. His mental attitude at the time is well illustrated by a remark he made to A. R. H. Beach, then of the General Electric Company. He said, ‘Beach, I don’t think nature would be so unkind as to withhold the secret of a good storage battery if a real earnest hunt for it is made.’” from Edison and His Storage Battery by W. H. Meadowcroft.

In 1908, Edison announced that the EDISON Nickel-Iron-Alkaline Storage Battery was ready for the market. One of its first applications was in axle-generator-battery systems on electric lighted railway passenger train cars.

In 1918, many of these original batteries were still in use after 10 years of service.

In 1928, many of these original batteries were still in use after 20 years of service.

In 1931, they were first applied to air-conditioned cars.

In 1934, they were first applied to 110-volt cars.

In 1948, they were first applied to cabin cars, some of them being batteries transferred from carlighting duty after 22 to 25 years of service.

1946 to 1950: A number of carlighting batteries were replaced after 35 years of service. Life on air-conditioned cars not yet established because of large number of variables; but indications beginning to appear that average on electro-mechanical cars is well over 10 years.

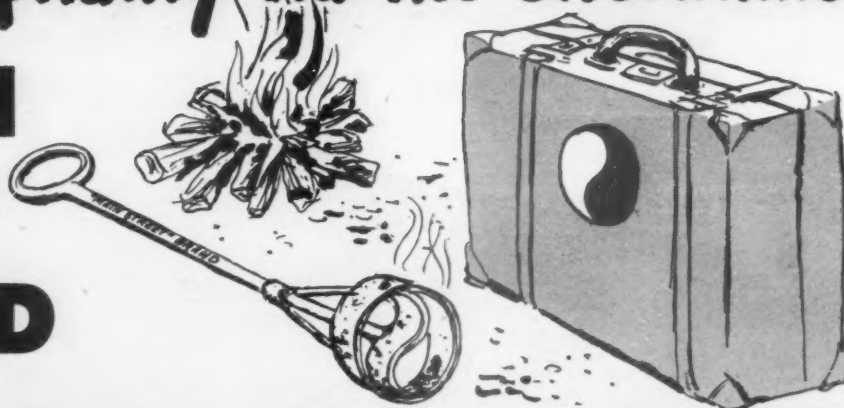
Edison Storage Battery Division of Thomas A. Edison, Incorporated, West Orange, New Jersey.



EDISON
Nickel • Iron • Alkaline
STORAGE BATTERIES

Guests enjoy the famous NP brand of Western Hospitality via the streamlined

NORTH COAST LIMITED



Perfect privacy in a Duplex Roomette, Roomette, Compartment, or Bedroom. NP's modern all-room Pullmans offer a choice of accommodations, all with individual toilet facilities, separate "weather" controls.



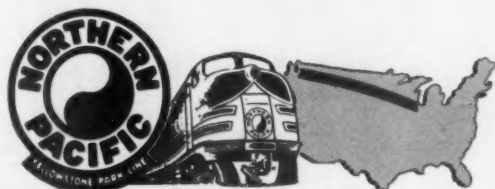
Complete comfort in soft "Sleepy Hollow" coach seats with adjustable reclining backs, leg rests, and individual reading lights. Ample dressing rooms are an added convenience of NP's money-saving "Day-Nite" coaches.



Two spacious lounge cars give Pullman patrons and coach passengers their own separate "clubrooms" for lounging, letter-writing, or congenial conversation. Refreshing drinks and tasty snacks are available, too.



Mouth-watering western meals... friendly service... and the breath-taking beauty of the West at every window. That's NP's brand of western hospitality. It makes traveling a pleasant, long-remembered experience.



NORTHERN PACIFIC RAILWAY

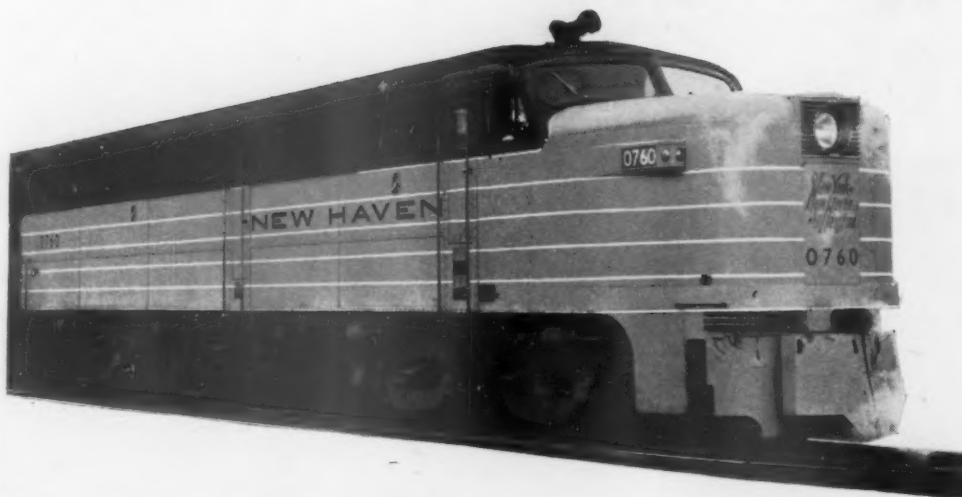
Main Street of the Northwest

12 new freight cars every day are coming off the production line at NP shops. A total of 500 fifty-footers are being hustled out to join NP's busy diesel freight fleet.

YOU CAN

Diesel All Around

THE NATION'S QUALITY CORNER

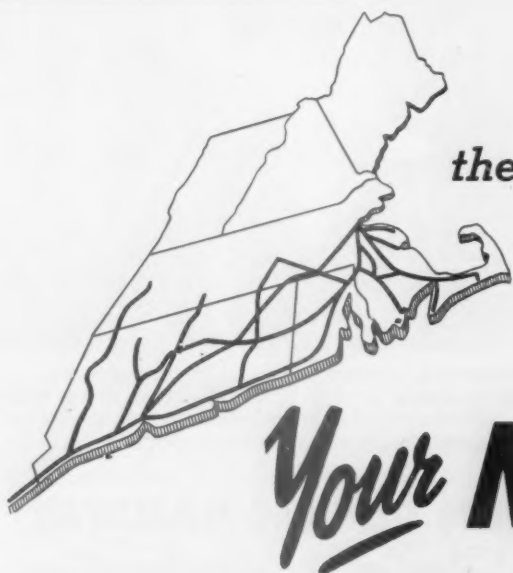


**NEW HAVEN
RAILROAD
to become
100% Dieselized
during '51**

Traffic is heavy throughout Southern New England, the Nation's Quality Corner. Transportation facilities, for both passengers and freight, must be *safe, fast, efficient*, and, above all, *dependable*.

Your New Haven Railroad provides the kind of service demanded in this highly-industrialized area. Already it has Diesel-electric or all-electric power on 96% of its entire system. Plans are now completed for the

New Haven Railroad to operate 100% with Diesel and electric power before the end of 1951. Another great forward step in New Haven's determined effort to furnish *dependable* transportation throughout the Nation's Quality Corner.



the **NATION'S
QUALITY
CORNER**

SERVED BY

Your **NEW HAVEN
RAILROAD**



RDC

1950's MOST IMPORTANT DEVELOPMENT IN PASSENGER PROGRESS

RDC, the Budd all-stainless steel rail diesel car, is now one year old.

Already, six different railroads have bought it—one railroad, the New York Central, having placed three separate orders.

The first RDC's went into service for their owners on May 1. Sixteen are now in operation. Five more will be delivered shortly.





The accumulated service mileage of these cars, as of October 1, was 326,000.

They have operated on runs as long as the 928 miles over the Western Pacific between Oakland and Salt Lake City; as short as the Chicago & North Western's commuter runs; in express service, for the New York Central between Boston and Springfield; in accommodation service between North Adams, Mass., and Albany; in a "triple play" run between Camden and Ocean City-Wildwood-Cape May for the Pennsylvania-Reading Seashore Lines, where a train of six RDC's leaves Camden and breaks up into three two-car units while shore-bound, and reverses the process returning.

During the month of August, the Chicago & North Western's three RDC's established a 99.2% on-time record, in commuter service.

Every RDC has greatly improved net revenues and has contributed proof that RDC offers the lowest cost rail transportation for passengers available to the railroads.

Railroads are justifiably cautious in their appraisal of new types of equipment—particularly self-propelled cars. The acceptance of RDC is without precedent.

CAMDEN

6

TUCKAHOE

2

OCEAN CITY

4

WILDWOOD JUNCTION

2

2

WILDWOOD

CAPE MAY

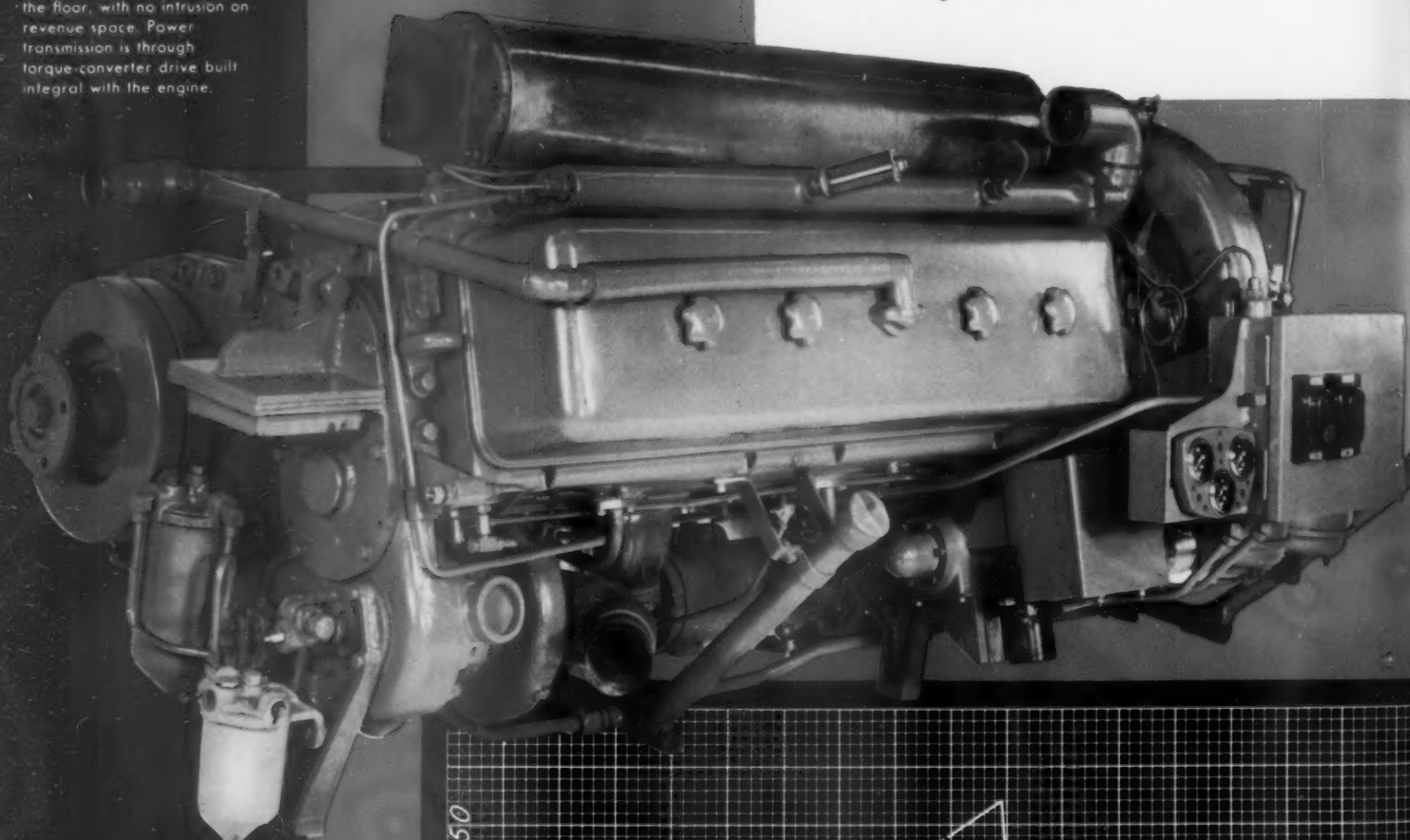
There are many reasons for this acceptance. One is its versatility. RDC is suited to every kind of railroad passenger service except sleeper service. Another is flexibility. RDC can operate as a single car, or as a train, depending on traffic requirements. But these cardinal factors in RDC's usefulness to railroads would be meaningless were it not for:



RDC operates both as a single unit and in multiples, coupled together, controlled from a single operating position. The Pennsylvania-Reading Seashore Lines, and Chicago & North Western operate their RDC's in multiples.

RDC is powered by two 275-hp, General Motors diesel engines mounted under the floor, with no intrusion on revenue space. Power transmission is through torque-converter drive built integral with the engine.

1. RDC's scintillating performance, with a high horsepower-weight ratio for fast acceleration and ability to master grades, and Budd railway disc brakes, anti-wheel slide devices, and sand both manually and automatically operated, for quick stops under all conditions.
2. RDC's economy of operation—56¢ a mile for a single car with two-man crew.
3. RDC's "either end" control, eliminating turn-arounds.



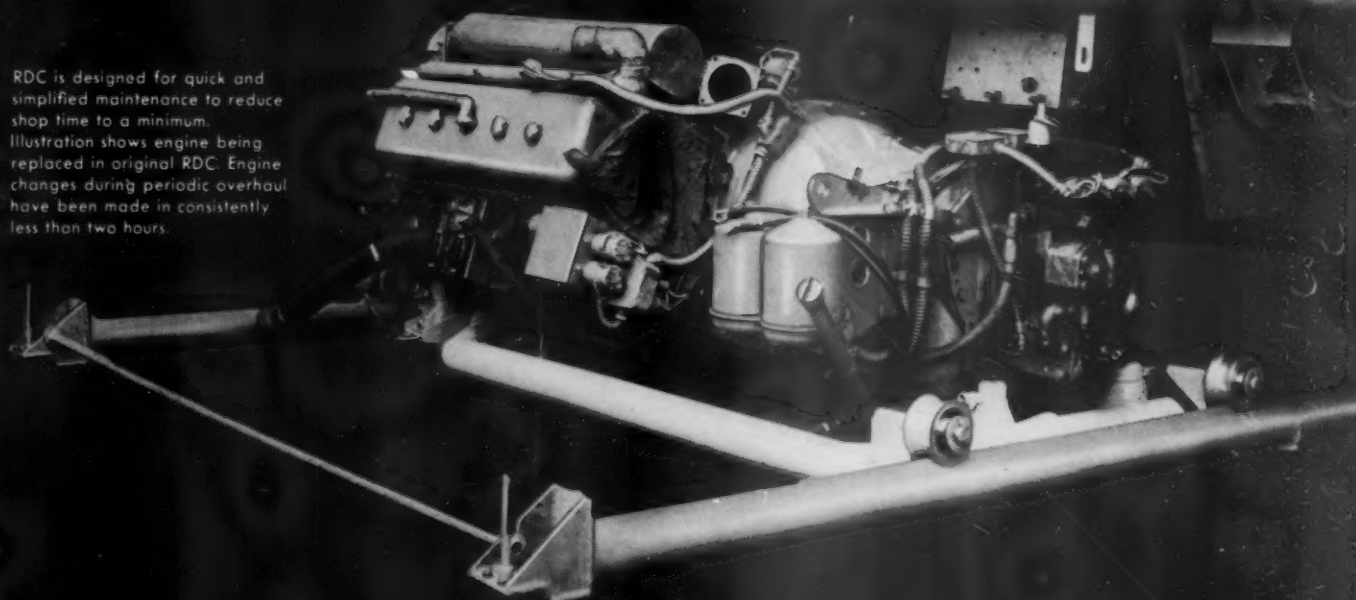
This chart illustrates the remarkable acceleration and stopping ability of RDC. Between mileposts 13 and 12, RDC has been stopped from 52 mph, then accelerated to 48 mph. Top speed is 83 mph. Recommended cruising speed, 70 mph.



RDC

4. RDC's remarkable design for low-cost, easily performed, fast-action maintenance.
5. RDC's beauty, cleanness and air-conditioned comfort which attract passengers and reverse the trend toward dwindling pay loads.

RDC is designed for quick and simplified maintenance to reduce shop time to a minimum. Illustration shows engine being replaced in original RDC. Engine changes during periodic overhaul have been made in consistently less than two hours.





RDC

6. RDC's all-stainless steel construction. No Budd-built all-stainless steel railway passenger car has ever worn out, though many have traveled more than four million miles, equivalent to more than forty years of average passenger car service.

RDC is completely standardized in four different models which provide for (a) passengers only, with seats for 90, (b) passengers and baggage, (c) passengers-baggage-mail, (d) mail, baggage and express exclusively.

RDC-1 interior, seating ninety passengers. The space is divided by a bulkhead through which pass exhaust and intake ducts, heating pipes, and coolants transmitted between the engines and the radiators located in the roof.



RDC

Most RDC's have been sold after railroads have tested the car in revenue service over their own lines and had an opportunity to discover, first hand, how RDC performs, reduces costs, increases earnings and traffic.

The Budd Company has a demonstration RDC available expressly for that purpose. It is loaned without fee. The Company also has a staff of experts available to help railroads to determine where RDC can be most useful and profitable to them. For information, address The Budd Company office nearest you, listed on the following page.



Controls at both ends of RDC remove any need for turn-arounds. Controls are simplified. The engineman's window is heated to prevent fogging or frosting.



The original RDC, 2960, is owned by The Budd Company and is loaned, without fee, to railroads which wish to try it out on their own lines in revenue service.



THE BUDD COMPANY

RAILWAY EXCHANGE BUILDING
Chicago 4, Illinois

230 PARK AVENUE
New York 17, N. Y.

2450 HUNTING PARK AVENUE
Philadelphia 32, Pennsylvania

RAILWAY EXCHANGE BUILDING
St. Louis 1, Missouri

111 SUTTER STREET
San Francisco 4, California

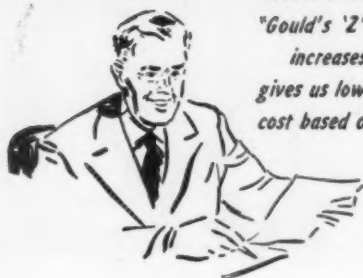
1218 CONNECTICUT AVE., N.W.
Washington, D. C.



MASTER MECHANIC:
*"Gould's periodic inspection
 service and technical assistance
 help us keep our battery
 maintenance costs low."*



CHIEF CAR INSPECTOR:
*"Our cars are more available
 for train make-up since
 we standardized on Gould."*



ELECTRICAL ENGINEER:
*"Gould's 'Z' plate design
 increases battery life...
 gives us lowest monthly
 cost based on service life."*

**ELECTRICAL
 YARD FOREMAN:**
*"Gould batteries require
 less yard charging
 ...they maintain capacity
 longer after charging!"*



They All Prefer GOULD-EQUIPPED CARS!

ELECTRICIAN:
*"Gould lead insert covers
 cut cleaning and corrosion."*



There's nothing like Gould Batteries to boost the availability of cars . . . and to cut the cost of battery maintenance!

The extra service, extra reserve capacity of these batteries are the result of Gould's new "Z" Plate. Look at these proven features: 96% of its entire working surface is regenerative power-producing material; the grid itself is 66% more resistant to deterioration; grid porosity has been reduced 85%! No wonder they all prefer

GOULD "Z" PLATE BATTERIES

**America's Finest Car Lighting
 and Air Conditioning Batteries!**

GOULD

STORAGE BATTERIES

GOULD-NATIONAL BATTERIES, INC.*

TRENTON 7, NEW JERSEY

*Always Use Gould-National Automobile and Truck Batteries
 Formerly Gould Storage Battery Corporation



There's HIGH SPEED in MAINTENANCE, too
—with AAR Solid Journal Bearings!

WITH AAR SOLID BEARING CARS, you can highball safely along at maximum permissible track and axle speeds. There are no speed restrictions whatever on these dependable bearings.

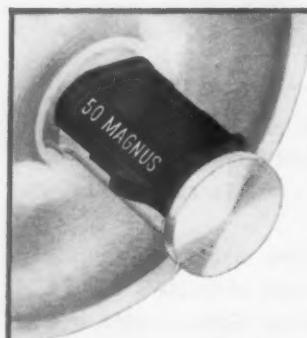
But you've got to keep cars on the line, too. And that's where AAR standard journal bearings really shine. *There's never any shopping for bearing maintenance required!* Journal inspection simply means lifting the lid. Replacement's just a matter of jacking the "box"—a 10-minute job for a one-man crew. No costly equipment or labor—no excessive standby inventories—no extra delays for replacing trucks.

It all adds up to more time "on line"—ready for the business of moving goods. And that's just one of the ways AAR solid journal bearings are contributing to economical railroad operation.

Write for new Bulletin 1000

MAGNUS METAL CORPORATION

Subsidiary of NATIONAL LEAD COMPANY, New York, Chicago



Here's why
 America's Railroads
 have standardized
 on the solid
 journal bearing

MAXIMUM DEPENDABILITY: In high speed service, a record of 42,000,000 car miles without a "heating."

LOWEST ACCELERATING AND RUNNING RESISTANCE: Glides on a single film of oil, like a skater on ice.

UNIVERSAL INTERCHANGEABILITY: Simple—dependable—economical—safe.

LIGHT WEIGHT: Saves many tons of excess dead weight on every moving train.

ROCK BOTTOM COST: Saves over 25% on initial car cost—96% on bearing replacement.

TAKING STOCK OF THE PASSENGER BUSINESS

At about the turn of the century James J. Hill declared that the passenger business on the railroads is like teats on a man—"neither useful nor ornamental." The fact, though, is that the crusty old "empire builder" never allowed his inherent dislike of any activity less congenial than the hauling of freight to interfere with his good business sense. The properties which he controlled never neglected to provide a quality of passenger service which was a source of pride to him.

Load Doubles, Despite Competition

Now 50 years later, it is worth while to take stock of the railroads' passenger business and find if it is now either ornamental or useful. There is little doubt that, as an ornament to our civilization, the passenger train has come into its own. The many photographic contrasts which appear in this issue, celebrating a half century of passenger progress, prove that, in functional beauty, in comfort and in public appeal, the modern passenger train need bow to nothing in this world.

That railroad passenger service is also "useful" today may be less apparent, yet it is equally true. Both in and

out of railroading, people tend to assume that, with the coming of autos, planes and buses, the carriage of passengers has come to be small potatoes. But the fact is that in passenger-miles—the best index of transportation actually produced—the railroads' traffic in 1949 was 119 per cent greater than it was in 1900, when they had a monopoly of intercity transport. Since, in the same period, the population of the country increased slightly less than 100 per cent, the railroads have more than held their own as a factor in the movement of people. They have, it is true, *shifted* their market drastically, but the total service rendered is as important, *per capita*, as ever. The death of train riding is, like that of Mark Twain, somewhat exaggerated.

The contrast between today's speed and comfort and that of 1900 is no greater, nor more deserving of acclaim, than the record which has been made in increasing the safety of railroad travel. Trains today, generally, run much faster than 50 years ago; traffic is heavier; the pace of life is more feverish. Yet, with more than double the passenger-miles produced, there were 37 passengers killed, and 2,545 injured in 1949, compared with 249 killed, and 4,128 injured in 1900. The rate in 1949 was

PUBLISHER . . .
Samuel O. Dunn
EDITOR . . .
James G. Lyne
MANAGING EDITOR . . .
C. B. Tavenner
WESTERN EDITOR . . .
William H. Schmidt, Jr.
NEWS & FINANCIAL EDITOR . . .
Gardner C. Hudson
WASHINGTON OFFICE . . .
Walter J. Taft
Joe W. Kizzia
ELECTRICAL DEPARTMENT . . .
Alfred G. Oehler

TRAFFIC & TRANSPORTATION
DEPARTMENT . . .
Robert G. Lewis
John W. Milliken
John S. Gallagher, Jr.
MECHANICAL DEPARTMENT . . .
C. B. Peck
E. L. Woodward
H. C. Wilcox
C. L. Combes
G. J. Weihofen
ENGINEERING DEPARTMENT . . .
M. H. Dick
Henry E. Michael
Norris V. Engman
Radford E. Dove

PURCHASES & EQUIPMENT . . .
Fred C. Miles
SIGNALING AND COMMUNICATIONS
DEPARTMENT . . .
John H. Dunn
Maurice Peacock
WESTERN NEWS DEPARTMENT . . .
Arthur M. Cox, Jr.
ASSOCIATE EDITOR . . .
Charles Layng
LIBRARIAN . . .
Edith C. Stone
EDITORIAL ASSISTANT . . .
Elaine C. Farrar

one fatality for every 15 million passengers carried, while, 50 years before, it was one for every 2 million. The injury rate in 1949 was one in every 218 thousand passengers carried, compared with one in 140 thousand in 1900.

What of the Future?

If passenger revenues hold up sufficiently well to support further new investment in facilities, there are in ferment today proposals, ideas and designs which will insure as much progress in passenger service as an "ornament" in the next 50 years as was achieved in the first half of the century. There is good reason to believe that an increase in passenger traffic is at hand.

While the Korean "incident" has passed the crisis stage, signs everywhere point to a continuation of the building up of the nation's armed strength for an indefinite period of "containment" of Soviet Russia. Military activity increases railroad passenger loads out of all proportion to total personnel involved. Modern military methods require the constant shuffling of men between schools, between maneuver areas and between camps.

Men are first trained *en masse*. Then they are "shipped" to form units. These units are later moved and consolidated into higher echelon forces. Eventually a large proportion of the personnel must go to a port for overseas duty. On top of this, an additional vast number of passenger-miles are created by furlough travel. Finally, defense activity scatters much of the civilian population itself to strange parts, and as a result people are impelled by family duties or plain homesickness to travel more than is customary. How "useful" the railroads can be in meeting this new challenge depends upon some perplexing "ifs." Everybody knows that during World War II miracles were performed with existing equipment, by filling all seats, turning equipment quickly—and stacking 'em in the aisles. But there is a limit to miracles. On June 1, 1940, there were 17,885 coaches and 6,443 sleeping cars. During the war 1,900 troop sleepers, 400 troop kitchen cars and 200 hospital

cars were added. The troop sleepers subsequently were sold off and converted to head-end passenger and camp equipment. Since the war, retirements of passenger cars have been greater than the delivery of new equipment, so that, today, the railroads have available only 16,336 coaches—fewer than they had in 1900—and 5,930 sleeping cars. And the proportion of the latter made up of all-room equipment is far greater than in World War II. How many troops can be hauled about in roomettes and bedrooms?

The railroads have on order 44 coaches, 73 sleeping cars, 71 cars described as "various"—mostly coaches and combines—and 8 self-propelled cars, or a total of 196 passenger-carrying cars. (The group of 50 electrically propelled cars also under order have extremely limited mobility.) Most of these orders—except for the self-propelled units—were placed a considerable time ago. When the backlog has been worked off, a large portion of the passenger car building industry of this country will have no orders to fill. This impending dearth has influenced at least one important builder to wonder whether the passenger car side of his business should not be abandoned altogether.

Alert Competition

Passenger car building facilities and employee skills lend themselves admirably to the manufacture of certain types of war material—as was demonstrated in the last conflict—and there always lurks the possibility that their owners will be enticed by war orders into abandoning for them the manufacture of passenger cars. Meanwhile, how do competing forms of transportation appraise the prospect? Looking forward toward a big rise in common carrier passenger movement, Greyhound Lines, alone, several weeks ago ordered, at one crack, 761 Diesel buses, with capacities ranging from 47 to 53 passengers each—a purchase representing \$18 million. Can the railroads, with the situation as critical as it now promises to be, take the risks involved in failing to utilize now available passenger car building facilities?

RAILWAY MAIL PAY

It would be hard to recall a time when the railroads and the Post Office Department were not at loggerheads over compensation of the former by the latter for carrying the mails. Now the postmaster general announces a settlement subject to approval by the Interstate Commerce Commission, of the claims of the carriers for under-payment during the period from February 19, 1947, to the end of this year. The roads are allowed an increase of about 19 per cent of the amounts they were paid.

In effect, the settlement is an admission by the Post Office Department that mail pay was inadequate during the period covered. By implication it supports the assertion of the railroad companies that they have long carried the mails at a loss. Presumably their loss will now be made up to them.

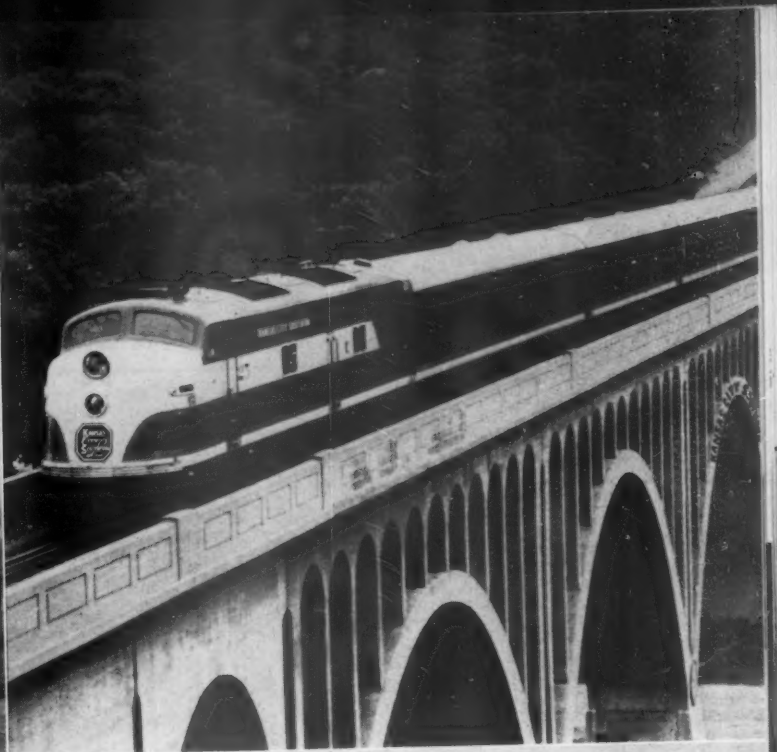
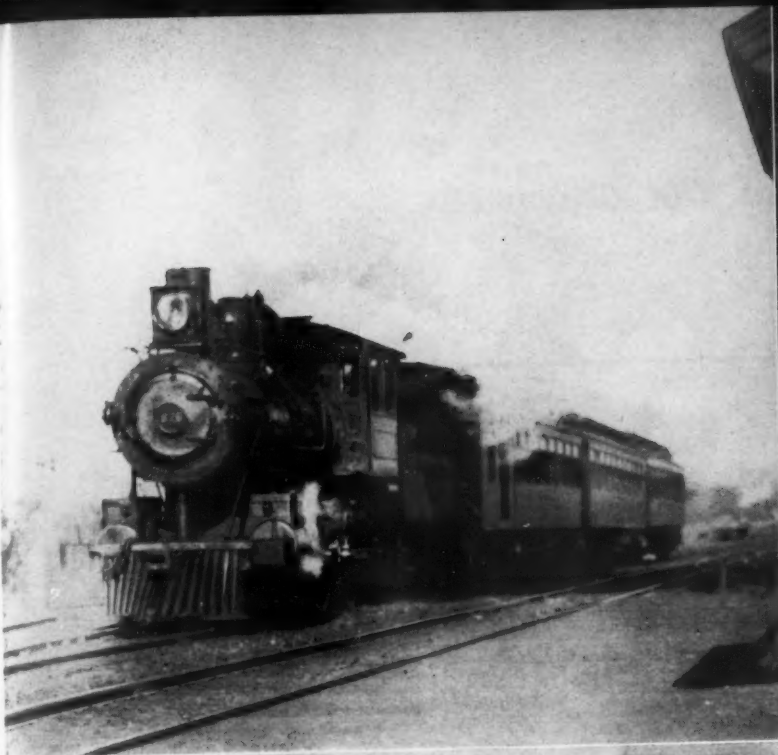
But how long after the loss was incurred was it made up to them? Evidently the time lag has been a variable

running up to more than three years. The delay in this case illustrates the fact, only too familiar to rail executives, that readjustment of service rates to rising operating costs is a slow process.

When as in this case a government department is the shipper, it can be asked to raise the rate of pay after the service has been performed. It is not so with the vast bulk of freight and passenger service. There the lag is irremediable, though the Interstate Commerce Commission has in recent years made commendable efforts to reduce it.

That lag, of course, has much to do with the question whether the country maintains a rail transport system able to respond promptly to all its needs; specifically, with the question whether there are freight cars enough now to serve adequately a big defense program imposed upon a great volume of civilian goods production.

—The Wall Street Journal



Passenger Progress—1900-1950



The Editor Gets a Letter from an Old Drummer

PALMER HOUSE

CHICAGO

October 15, 1950

Railway Age
30 Church St.
New York 7, N. Y.

Dear Editor:

In the smoker coming up from St. Louis the other day, a passenger piped up to say he supposed that, since drummers all use cars and planes now, I would see very little progress on the rails since 1900. Said I, "Mister, that's just where you're wrong."

The drummers haven't deserted the railroads; they'd be damned fools if they did. Sure, we drummers don't cover every inch of our territory by rail, like we used to, and ride mixed trains and eat in the caboose with the crews. Most of those runs are gone anyhow. But there are lots of trips we take where a train does the best job; doesn't tire us out driving; doesn't land us at an airport 30 miles out of town at midnight.

And the trains we ride now—how different! Why, sir, I can remember when a sure sign of our profession was soot in the hair and dirt on the collar; we used to envy the railroad boys their "thousand milers." Even if the windows had been clean, we couldn't have seen out of them, the glass was so full of "wrinkles." In winter the draughts came right around sashes and froze the upper torso, while the nether ditto was fricasseed by the steam pipes. (I'm talking about the good trains; the stoves on the branches did an even more scientific job of varying body temperature.) A few lines had newfangled "reclining seats," when coaches became "chair cars," but, aside from tilting, they never supported this man's back any better than the ordinary walk-overs. And if the plush ones didn't give you heat rash, the straw ones tattooed you with what looked like the canals on Mars. Gas light was swell for murders—but hard on the eyes.

The drinking water was warm and rusty—and so was the cup on the chain; using the rest room always made me think of the Gates of Hell—only it was awful cold instead of awful hot. Except with a short train and an exceptional engineer, most journeys started with a jerk from slack action, and trains were stopped by what appeared to be monkeys with St. Vitus dance—the trucks chattered so. And, while you may read of fast runs like the "Empire State Express," the trains most passengers rode were machines of great deliberateness, and the

A HILTON HOTEL

PALMER HOUSE

CHICAGO

few super-fast ones on the road always seemed about to leave the rails. If they had, their car-sick passengers wouldn't have cared much.

Today I enjoy fast speeds, with comfort, consistently about the country; smooth starts and stops with tight couplers and uniform-acting brakes; windows I can see through and which seal out the weather; soft car lights that rest the eyes, plus individual lights I can work to suit myself. When I ride coach I get foot rests, and a seat which fits my bones and bumps. When I ride Pullman I can get exclusive room accommodations for a few cents more than a lower—accommodations which only the very rich—and sales managers—enjoyed in 1900; and gone is the necessity for outsmarting other drummers for a morning wash-up.

Lots of other changes I could mention—Diesels, domes, direct phones, and the rest. Enough to say that, whatever the superficial similarity, railroads today are an utterly different animal than they were when I started to tote sample cases.

Equipment doesn't tell the whole story either. It's many times safer to ride a train now than it was in 1900, despite much greater speeds. The "on time" performance is better. And you get much more for your money:

In 1900 a dollar was worth two dinner meals in a good restaurant; or 11 lbs. of steak; or one night's lodging in a traveling man's hotel. In 1900, it cost my firm two cents a mile for my passenger transportation and, generally I had to pay Pullman charges to keep comfortable.

In 1950, a dollar won't buy much of anything. But, in 1950, the railroads still get only three cents a mile from each passenger on the average.

Take it from a long-time railroad rider—and you can quote this—there's a whale of a lot of progress in railroad passenger service in the last 50 years.

Yours truly,
The Old Drummer

A HILTON HOTEL

1900 and 1950—

The beginning of the Twentieth Century was also a period of magical change—as when a gangling, awkward youth suddenly emerges a man and, as he shakes off his growing pains, takes on even bigger problems.

Prior to 1900 the railroad network had grown rapidly in all directions, often preceding the population and industry necessary to support it. More miles of new railroad had been built in 1899 than in any year since 1890—4,588 miles. Official reports in the hands of the *Railway Age* at the beginning of 1900 showed that not less than 5,200 miles of new line were actually under construction or under contract. Nevertheless, the railroad network, for the most part, had gained its full growth *extensively*, and only a few big undertakings like the Western Pacific, the Virginian and the Milwaukee's Pacific Coast extension lay ahead. Indeed, the *Railroad Gazette*, then *Railway Age's* competitor (later merged), believed that new railroad building—except in frontier territory—had gone far enough. The first half of the Twentieth Century was to see *intensive* railroad development—constant improvement of route-mileage already laid.

The period of adolescence was over also in the field of rates and regulation. The Interstate Commerce Commission did not yet have the power to fix rates, but it could find those proposed or in effect to be “unjust and unreasonable.” The railroads entered the new century with freight rates and passenger fares at all-time low levels (with the exception of temporary rate-war “bargains”), with average freight receipts at 7.24 mills a ton-mile and fares at 1.978 cents a passenger-mile. Efforts by the roads to raise these rates to meet the trend of a rising price and cost level, which started in the early 1900's, precipitated popular demand to give the commission power to prescribe, as well as to throw out, rates—a power granted by the Hepburn Act in 1906.

By 1900 the dreaded rate wars, which, with unremitting pressure, had driven so many roads into or near the bankruptcy courts during the previous decades, were dying out. There followed the gradual formation of regional “passenger associations,” and the ensuing standardization of passenger tariffs and charges. This opened the way for a “code of ethics” which outlawed rate wars, although it left ample room for healthy experimentation, so that excursions and other “bargain” fares continued to flourish.

A tangible evidence of this new amity was an agreement by all roads to cease payment of commissions “or other consideration” for the sale of their tickets by others than their own salaried agents, and to allow sales at nothing but full face value. *Railway Age* hailed this milestone by observing: “Great savings in money and great advantage . . . will come from the suppression of the host of outside agents and scalpers who have continually broken down rates, falsified agreements, corrupted railway officials and travelers, and fattened on forgery, theft and petty frauds.” In a subsequent issue it was noted that “ticket scalping died hard.” But with its passing came new standards of fair and reasonable competition.

Physical Problems Uppermost

The big problems of the day were still mostly physical, rather than administrative. It was a time crowded with inventions and new ideas coming from literally thousands of different individuals, as compared with today's long-term research carried on by a relatively few large companies. Journal bearings, brakes and draft gear needed looking into. Engines were either not big enough or not fast enough; nobody seemed to be able to build one which was both. Bridges could not stand the increasing weight

of bigger, heavier trains. The best method for lighting passenger cars was hotly debated by the advocates of gas and electricity. One inventive fellow, quite ahead of his time, even devised an under-car, gasoline-powered, electrical generating unit. Matters of primary interest today—like advertising, fare levels, scheduling, traffic promotion, solicitation—didn't get much attention.

Bicycles and Indians

The roads had their administrative problems in 1900, to be sure. A popular actress demanded that her new-fangled automobile be checked free as part of her wardrobe, thereby forcing the lines to decide that “automobiles are not baggage.” Less pretentious passengers, with more votes, demanded free carriage of bicycles; so important did the craze become that the *Railroad Gazette* was constrained to undertake an editorial “crusade” against allowing them this privilege.

“Jim Crow” trouble is nothing new. In 1900 a Pamunkey Indian brought suit against a southern line for damages based on the alleged indignity of being classed with the “colored”; and in Virginia a sensitive white citizen brought suit against a railroad because it allowed an Indian to ride in the “white” compartment.

Train Speeds

In 1900 most trains were slow, very slow by present standards. But in spots where competition was intense and traffic a prize worth spending money to win, there were established schedule speeds which look good today. The International Railway Congress, in its 1900 annual review of global train speeds, gave honors for the “world's fastest train” to the Reading for a Camden-Atlantic City nonstop express which averaged 66.6 m.p.h. for 55½ miles, start-to-stop, with a maximum running speed of 75 m.p.h. Although unrecognized by the congress, there were other speedsters on American rails—such as the Wabash's “Continental Limited,” New York Central's “Empire State Express,” the Baltimore & Ohio's “Royal Limited,” the Pennsylvania's Camden-Atlantic City expresses, and the Burlington's “Fast Mail.”

Low though general performance was, high speed was an obsession of the day and the newspapers and trade press were full of trial performances and “outstanding runs,” with complete details on passing times, grades and curvature, which remind one of the kind of letters which present-day English railway devotees write to their editors.

Pursuant to this craze for high speed, plus a desire to reduce the expense of overcoming wind resistance, there was built in the B.&O. Mt. Clare shops, on order of its inventor, a six-car streamline train—called the “Adams air-splitting train.” It had smoothly paneled car sides, with flush windows, skirts, rounded roofs, flush diaphragms and a completely enclosed, tapered-end observation car. It even had forced-air ventilation. But it was ahead of its time, both in application and in adaptability of materials, and the *Gazette* assigned it to the category of *curiosa* with the remark: “It is a recognized principle (Continued on page 110)”

Passenger Service Then and Now

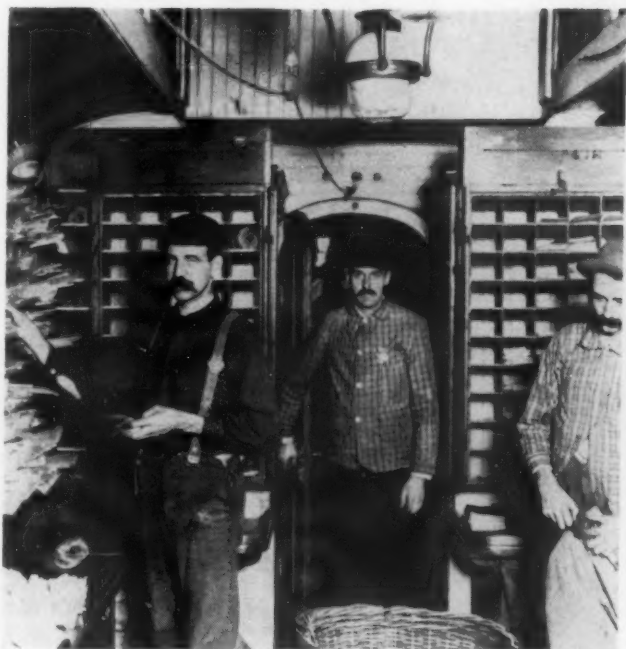
THE DEPRESSION - RIDDEN THIRTIES saw the introduction of the integrated, small profile, lightweight streamliner powered by internal combustion, with the Burlington's "Zephyr" (here shown) and the Union Pacific's M-10000 as "pilot models"



IN THE LAST YEAR OF THE 19th CENTURY, more than 4,500 miles of new railroad line were completed. As of the turn of the century nearly 50,000 miles of projected road were under consideration. Nevertheless the *Railroad Gazette* believed that new railroad building—except in frontier territory—had gone far enough, and that the roads would seek to improve the mileage already in operation. The *Gazette* was right



THOUGH INAUGURATED MUCH EARLIER THAN 1900, the classification of mail en route developed greatly during the 20th Century. Railway mail clerks in 1900 seem to have had some difficulty keeping their trousers up





IN 1900 STATIONS HAD MORE BUSTLE AND CONFUSION than now. Here is the Louisville & Nashville's depot in Mobile, Ala., in that year



THE BASE OF TRAVEL COMFORT HAS BROADENED IN 50 YEARS. In 1900 luxury was limited to a few highly competitive trains for "The Four Hundred." Now it is commonplace. Even rural runs, in relatively sparsely settled territories—like this modern streamliner on the Bangor & Aroostook—have comforts unknown to J. P. Morgan the elder. In territories yielding even less traffic, roads like the Minneapolis & St. Louis have introduced modern coach comfort on mixed and motor trains

THEY BELIEVED IN SOLID COMFORT IN 1900. Here is a passenger on the "Overland Limited" (C. & N. W., U. P. and S. P.) who didn't care what anybody thought



DINNER

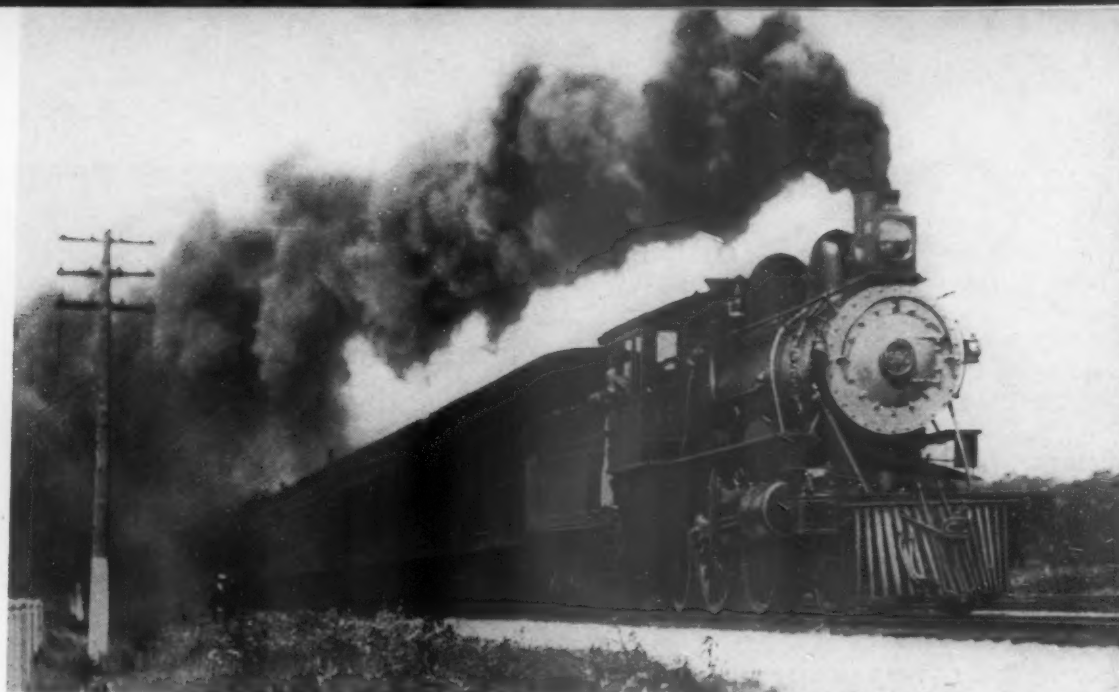
Lynnhaven Boys		
Marie Stuart		Concomme, in eggs
Colony	Baked Almonds	Green Olives
	Boiled Striped Bass, Egg Sauce	
	Boiled Potatoes	
	Diamond Backed Terrapin, a la Maryland	
Roast Quail, en casso		Charlotte of Fruit, in cases
	Prime Ribs of Beef, Yorkshire Fudding	
	Roast Turkey, Oyster Dressing, Cranberry Sauce	
Mashed Potatoes		Sugar Cans
Stewed Tomatoes		Candied Sweet Potatoes
Roast Carved Back Duck, Honey Croquettes, Currant Jelly		
	Stuffed Tomato Salad, au Mayonnaise	
	English Plum Pudding, Hard or Brandy Sauce	
Pumpkin Pie		Mince Pie
Pineapple Ice Cream, in cases		Assorted Cake
	Requesfort and Edam Cheese	
	Best's Water Crackers	
	Food California Maltage	
	Black Coffee	
	Crème de Menthe	
Meals, One Dollar		

Deer Park, Maryland, Spring Water used on Tables

Che "Waldorf"
Thursday, November 29, 1900.

ON THANKSGIVING DAY IN 1900 YOU COULD HAVE ALL THIS for a dollar on the Baltimore & Ohio's "Royal Limited"!

SPEED WAS A BIG ADVERTISING POINT IN 1900 and trains like the Reading's and Pennsylvania's Atlantic City flyers, the New York Central's "Empire State Express" and the Burlington's "Fast Mail" made records which look good today. Here is a rare Columbia-type locomotive, developed for high speed with relatively light loads, pulling the "Fast Mail" near Downers Grove, Ill. in 1900



THE NEW STREAMLINERS OF 1950

In the twelve months since the last Passenger Progress Issue of *Railway Age* was published, 16 brand-new stream-line trains have been inaugurated. These 16 trains, installed by 13 different railroads, require 39 separate sets of rolling stock. This brings the total number of streamliners now in service to 154, made up of 319 sets of equipment. These ultra-modern trains run a total of 212,401 miles every day of the week.

1950's newest streamliners are:

- "Blue Bird" between Chicago and St. Louis over the Wabash
- "Cascade" between San Francisco and Portland on the Southern Pacific
- "Crescent" between New York and New Orleans over the Pennsylvania, Southern, Atlanta & West Point, Western Railway of Alabama, and Louisville & Nashville
- "Dakota 400" between Huron, S. D., and Chicago via the Chicago & North Western
- "Flambeau 400" between Ashland, Wis., and Chicago over the Chicago & North Western

- "International" between Seattle and Vancouver, B. C., on the Great Northern
- "Kansas City Chief" between Kansas City and Chicago via the Atchison, Topeka & Santa Fe
- "Nickel Plate Limited" between Buffalo and Chicago via the New York, Chicago & St. Louis
- "Powhatan Arrow" between Norfolk and Cincinnati over the Norfolk & Western
- "Red River" between Grand Forks, N. D., and St. Paul over the Great Northern
- "Royal Palm" between Cincinnati and Jacksonville via the Southern
- "Sunset Limited" between New Orleans and Los Angeles via the Southern Pacific
- "The F.F.V." between Washington and Cincinnati-Louisville via the Chesapeake & Ohio
- "The George Washington" between Washington-Norfolk (Phoebus) and Cincinnati-Louisville via the Chesapeake & Ohio
- "The Sportsman" between Norfolk (Phoebus) and Detroit-Cincinnati via the Chesapeake & Ohio
- "Westerner" between Buffalo and Chicago over the New York, Chicago & St. Louis

ONE FORM OF RAILROAD PASSENGER TRAVEL WHICH HAS BOOMED SINCE 1900 is commutation. Though unprofitable to most lines, it is, nevertheless, being modernized these days at an unprecedented rate. Here is a new Diesel on the biggest commuter road of all, the Long Island



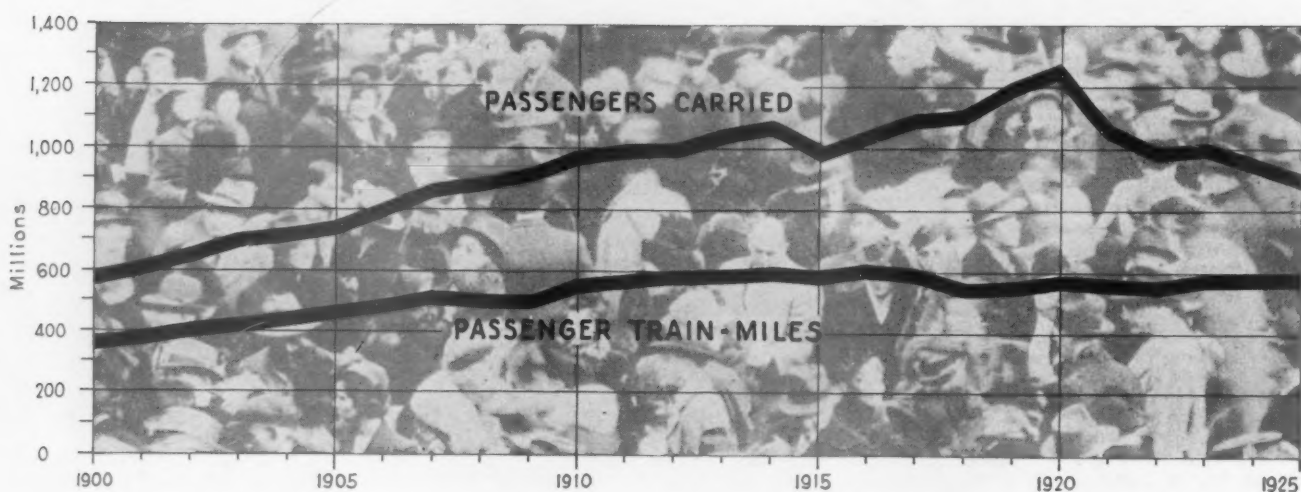


Fig. 1—THE RAILROADS HAVE DONE A REMARKABLE JOB in relating passenger train-miles operated to the number of passengers carried, despite the fact that the necessity to

render regular service—plus the orders of state commissions—make it impossible to effect as close a correlation as is accomplished in freight transportation. This graph indicates

(Continued from page 106)

among men who have to carry on the business of the world that it is not good economics to spend more to save money than the amount of money which you save." But the experiment was typical of the ferment at work in railroading at the turn of the century.

From 1900 to 1950, the population of the continental United States almost doubled—climbing from 76 million to 151 million. Despite the meteoric rise of private motor vehicles, buses and air transport, passenger transportation produced by the railroads (measured in passenger-miles) in 1949 was more than twice that produced in 1900—more than matching the increase in population—as indicated in Fig. 2.

Much of this increase was due, of course, to the fact that the total travel market increased very much more than population; that the railroads lost much of the short-haul portion of this travel; and that what remains to them represents longer journeys and, therefore, more passenger-miles, as graphically demonstrated by Fig. 3. The number of passengers carried by the railroads in 1949 was actually slightly less than in 1900, as shown by Fig. 1, as was true also of train-miles operated. The impact of rail passenger transportation on individuals ob-

viously is less now than it was 50 years ago; in 1900 one person in 130 made a trip by train; in 1949 only one out of 270 so traveled. But the total passenger travel product of the railroads is still as high as it was in 1900 in relation to population.

Efficiency Has Improved

The past half-century has seen marked increases in the efficiency of railroad passenger service operations. Trains have doubled in length, are traveling faster, carry bigger loads and produce better results per train-mile. (Only the average revenue load per car has shown little change. Indeed, the modern trend is toward more space and comfort for each passenger.)

	1900	1949
Average distance traveled per passenger car, miles	59,738	100,621
Average number of cars per train	5*	10
Revenue per passenger train-mile	\$89	\$2.21
Number of passengers carried per car in service	16,617	15,902

*For 1908, earliest figure available

The turn of the century found "wild west" railroading still its old exciting self. The Gazette reported: "To frustrate train robberies the Burlington has made a standing

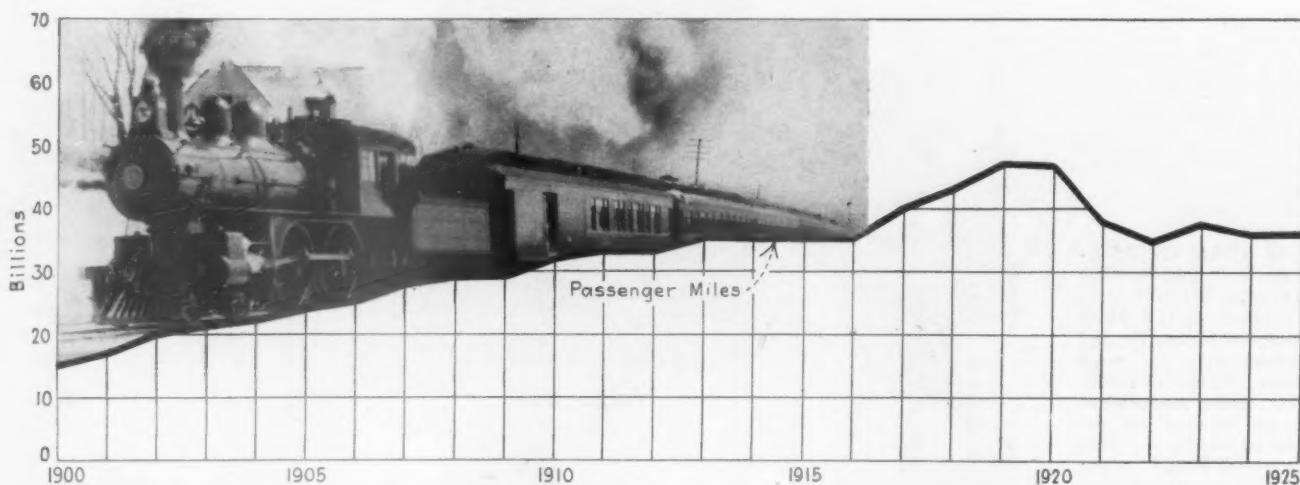
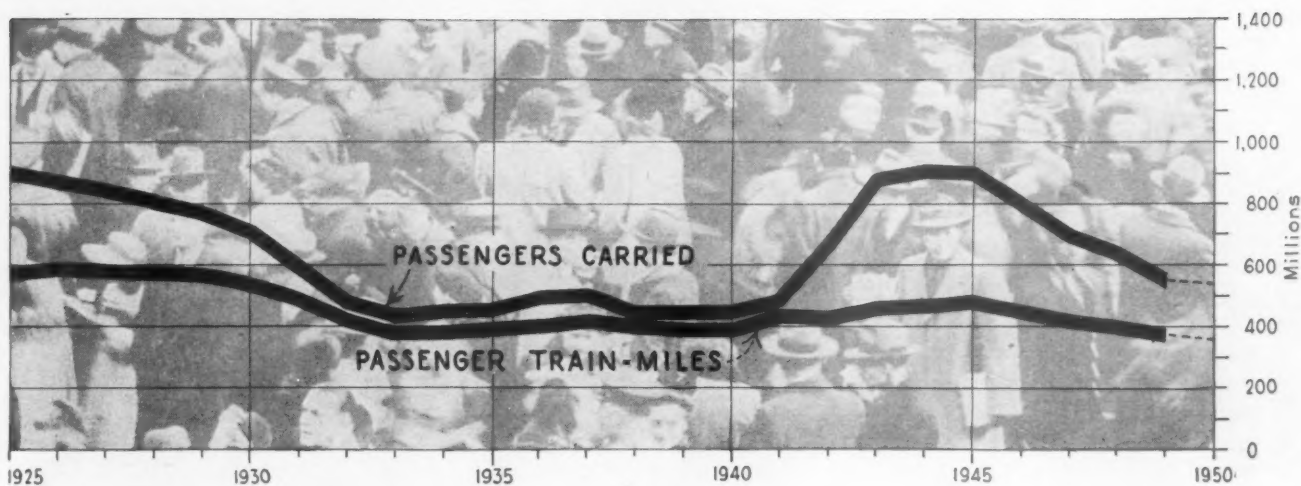


Fig. 2—DUE TO THE DIVERSION OF A GREAT VOLUME OF SHORT-HAUL BUSINESS—first to the electric railway and

then to the motor vehicle—railroad passengers (except commuters) are now relatively long haul customers. Passenger



also that, during World War II, the railroads were able to handle an extraordinary load with a very modest increase in train miles. In 1949 the railroads carried about as many pas-

sengers and operated as many train-miles as 50 years ago, but since each passenger traveled a great deal farther, the total transportation produced was greater in 1949 than in 1900

offer of \$1,000 for capturing or killing a train robber, and it is said more trainmen will be armed." But "dudeism" was definitely on its way for, in the same year, the Northern Pacific inaugurated its new "North Coast Limited," featuring a "handsome observation car" which was notable for its very large observation platform, barber shop, and its "large bathroom which is fitted up so that warm water baths may be had at all times of the year."

Here are other random glimpses of the times:

- The Chicago & Eastern Illinois and the Cotton Belt inaugurated a new through service between Chicago and the Southwest via Thebes, Ill.
- The Cleveland, Cincinnati, Chicago & St. Louis was experimenting with willow hoops for delivering orders to moving trains.
- At New York, trains of the Pennsylvania left from Jersey City, with ferry transfer to and from Manhattan and Brooklyn.
- The Chicago, Milwaukee & St. Paul hadn't reached the Pacific, but it received two "magnificent" new parlor cars, decorated after the architecture of the East Indies, with an observation room of mahogany.
- The *Official Guide of the Railways* found it desirable to list the gage of each railroad in its front index.

—Eleven different routes competed for the New York-Chicago traveler, including such long-forgotten combinations as the Ontario & Western-Wabash and the West Shore-Nickel Plate.

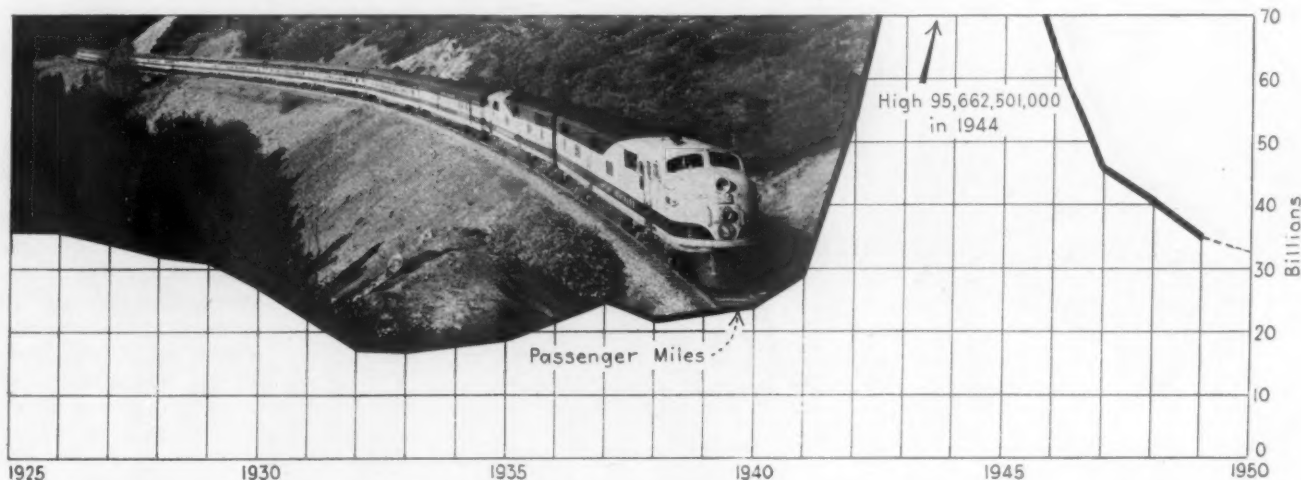
—The Lake Erie & Western (now a part of the Nickel Plate) advertised itself as the "Natural Gas Route."

—In the East, discussion was vigorous as to whether "Don't spit on the floor" signs should be posted in all cars. Apparently the discussion worked around to the relative accuracy of different nationalities, for the *Gazette* editorialized "We do not wholly question the accuracy of English aim, nor its conservative delivery, . . . but there comes to mind . . . Englishmen who were able and willing to drown a fly as expeditiously and at as long range as any man we have ever known, French or Yankee."

—The Atchison, Topeka & Santa Fe ran its own trains through to San Francisco Bay for the first time.

Modernity Is Many Things

The articles which follow review the progress which has been made in various segments of railroading in the last 50 years in serving passengers and promoting their



miles performed in 1949 were 118 per cent greater than in 1900, despite competition. A reversal of the postwar decline

is indicated if the 1933-1940 trend upward is to resume as the activities of the armed services are stepped up

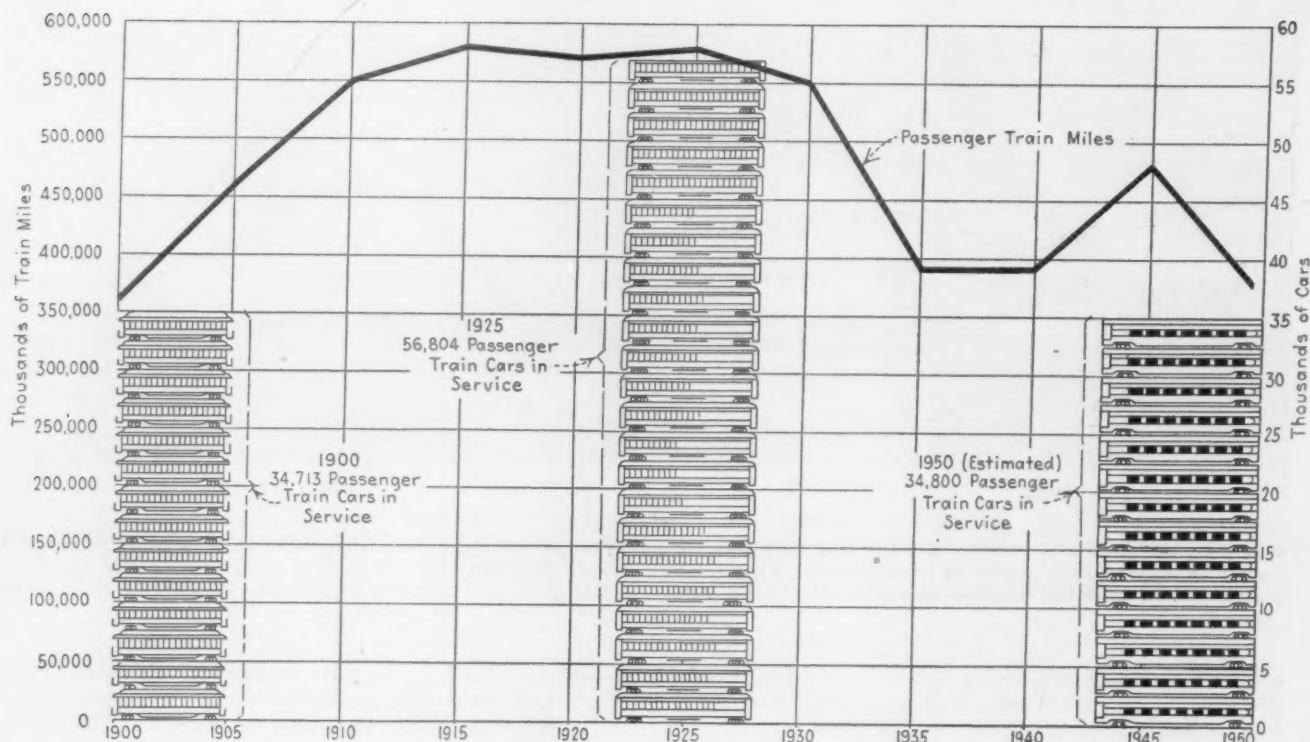


Fig. 4—During the past 50 years there seems to have been considerable correlation between train-miles performed and the number of passenger-train cars (including head end and Pullman cars) available for producing them

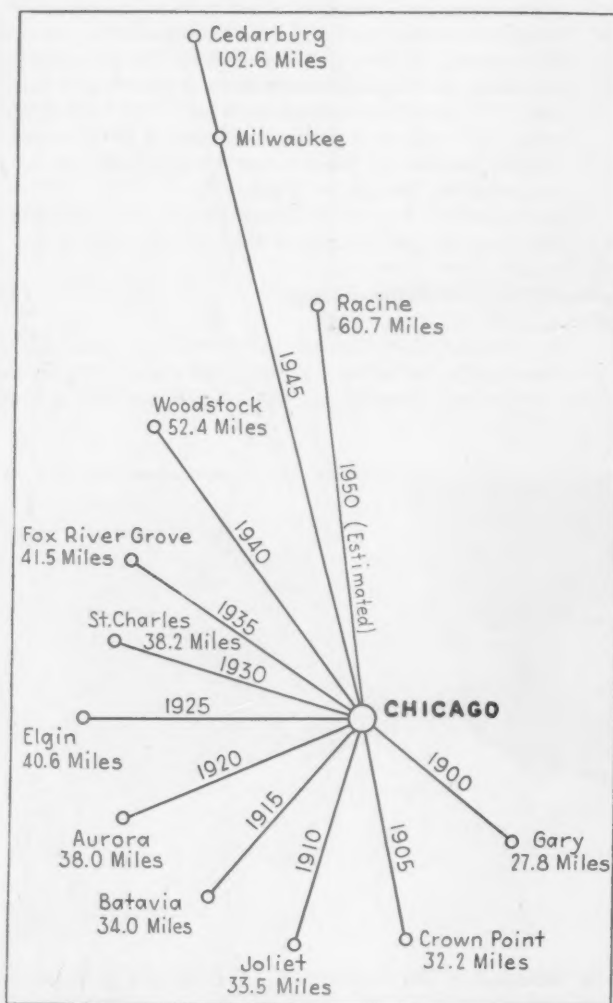


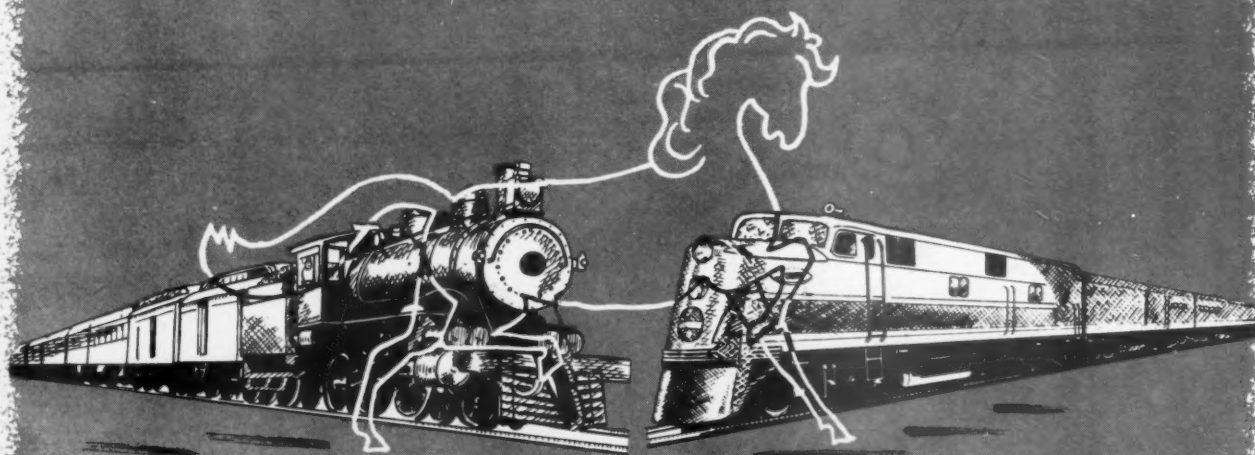
Fig. 3—HOW FAR THE "STATISTICAL AVERAGE" PASSENGER WOULD TRAVEL out of Chicago at selected five-year intervals is indicated by this chart, which translates average miles per passenger per railroad into actual journey via the shortest service route. Whereas in 1900 Mr. Average Passenger would have reached only Gary, Ind., now he gets to Racine, Wis.

patronage. The portfolio of "Thoroughbreds" which follows demonstrates the overall improvements in schedules and equipment. In this article are listed new streamliners introduced to the rails during the past 12 months and a summary of the streamliners now in service in the United States. To this demonstration of recent progress there should be added mention of the development of the RDC self-propelled Diesel rail car suitable for multiple-unit operation, which has been placed in service on the New York Central, Western Pacific, Chicago & North Western, Baltimore & Ohio and Pennsylvania-Reading Seashore Lines, and ordered by the New York, Susquehanna & Western.

But modernity is also a matter of pricing. The year 1950 saw many experimental fares designed to attract passengers and revenues back to the rails. The Erie introduced its "One Cent Sales," and the Lackawanna offered low one-day round-trip fares in suburban territory. The New Haven set up low one-day and 30-day round trip fares at the time of the general eastern fare increase last December. The Great Northern placed very low one-way and round-trip fares in effect between Seattle and Vancouver, B. C., in a frank bid for highway traffic. The Northern Pacific, Great Northern and Union Pacific introduced similar fares in their pool service between Portland and Seattle. Previously the Southern Pacific had offered unusually low fares on its routes between Los Angeles and San Francisco, and between San Francisco and Portland.

l-
es
rs
a
ed
re
C
it
w
n,
re
&
ar
act
ro-
ed
he
rip
ast
ay
an-
he
in-
ort-
nad
Los
sco

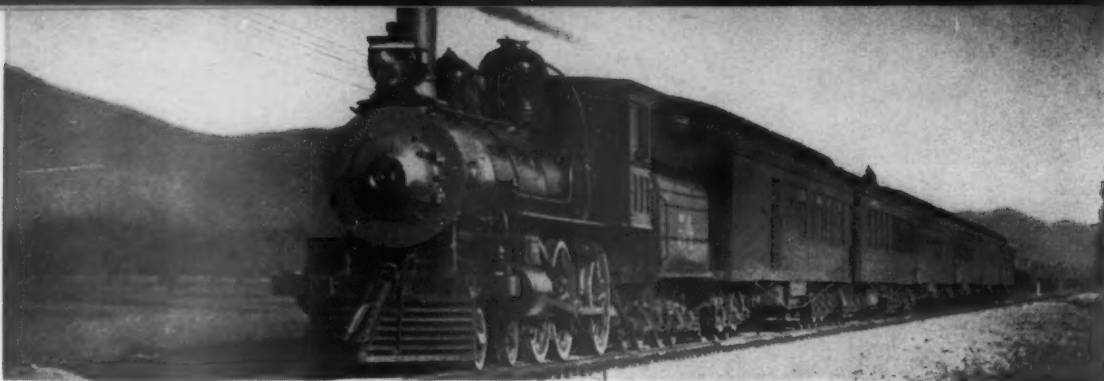
FIFTY YEARS OF THOROUGHBREDS



1900 - 1950



Atchison, Topeka & Santa Fe



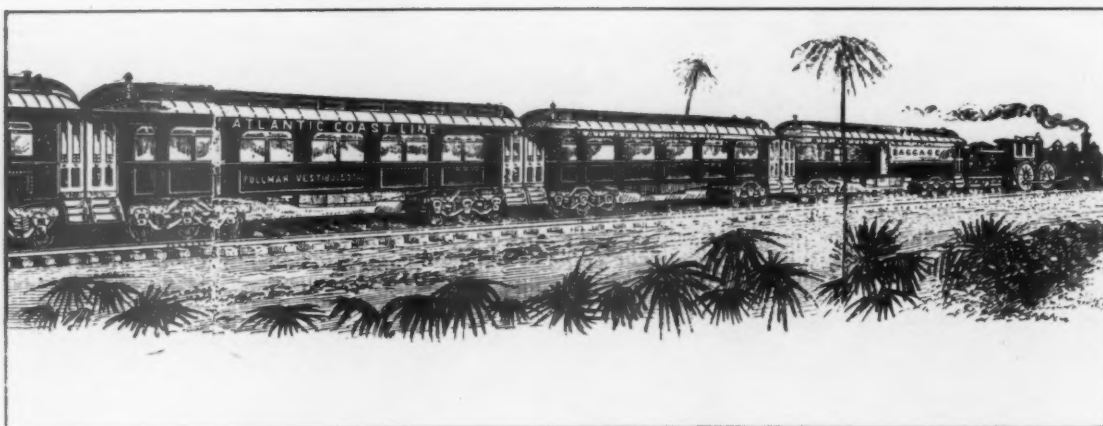
THE CALIFORNIA LIMITED—1892—Chicago-Los Angeles (2,265 miles), 83 hr. westbound, 82 hr. 10 min. eastbound. Normal Consist: 10 cars, including chair, tourist sleeping, "palace" sleeping and dining



THE SUPER CHIEF—1950—Chicago-Los Angeles (2,224 miles), 39 hr. 45 min. each way. Normal Consist: 12 cars, all-Pullman, including sleeping, dining and observation



Atlantic Coast Line



THE NEW YORK-FLORIDA SPECIAL—1900 (P. R. R.-R. F. & P.-A. C. L.-F. E. C.)—New York-St. Augustine (1,050 miles), 30 hr. each way, tri-weekly in winter season. Normal Consist: 6 cars, all-Pullman, including sleeping and dining. Established in 1888, and a pioneer in using vestibuled platforms and electric lighting



THE FLORIDA SPECIAL — 1950 (P. R. R.-R. F. & P.-A. C. L.-F. E. C.)—New York-Miami (1,382 miles), 24 hr. 55 min. southbound; 25 hr. northbound; daily in winter. Normal Consist: 17 cars, all-Pullman, including sleeping, dining and lounge



Baltimore & Ohio

THE ROYAL LIMITED—1900 (C. of N. J.-P. & R.-B. & O.)—New York (Jersey City)-Washington (223 miles), 5 hr. southbound, 5 hr. 5 min. northbound. Normal Consist: 4 cars, all-Pullman, including parlor, observation-buffet, and dining (New York-Philadelphia)



New Subscription Order



Gentlemen:

SEND ME RAILWAY AGE FOR THE NEXT 52 WEEKS

— starting service on my subscription as soon as possible.

REGULAR 1 YEAR RATE \$6.—PROFESSIONAL RATE \$3. (to Railroad Men Only)

Name

Department Title

Company

Address

City Zone State

- ☐ \$3 Payment Attached
- ☐ \$6 Payment Attached
- ☐ Render your invoice when subscription begins

(Above rates apply only to U. S. and Canada)

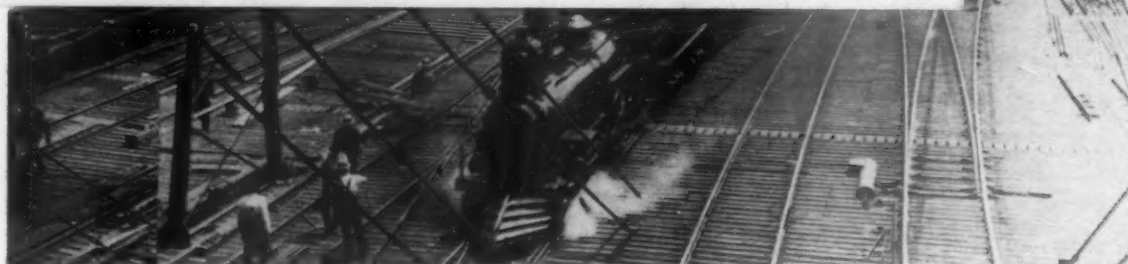
10-23-50



(223 miles),
dining and



Boston & Maine



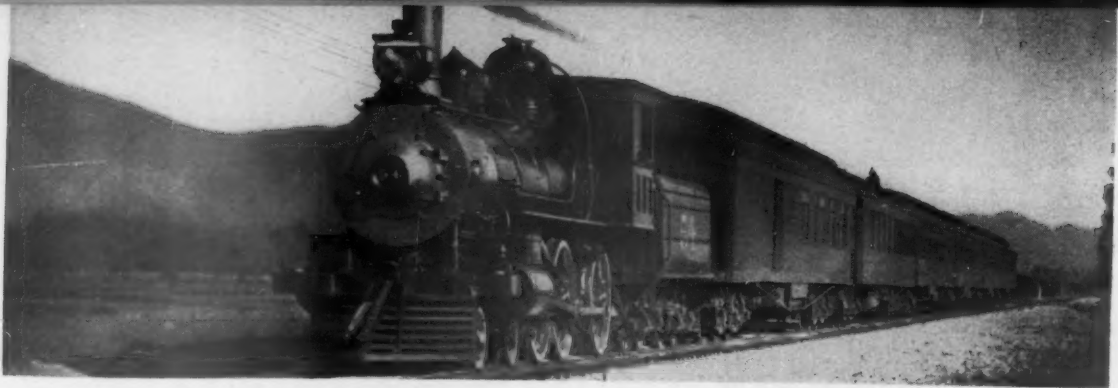
NUMBERS 25 AND 64—Boston-Portland, via Eastern Route (115 miles), 3 hr. 15 min. southbound, 4 hr. northbound. Normal Consist: 12 cars, including coach and parlor (Note: Here No. 25 is at left; Stoneham local is in middle foreground)

THE FLYING YANKEE—1950—Boston-Portland, via Western Route (115 miles), 2 hr. 15 min. southbound; 1 hr. 55 min. northbound. Normal Consist: Includes parlor, dining and coach





Atchison, Topeka &
Santa Fe



THE CALIFORNIA LIMITED—1892—Chicago-Los Angeles (2,265 miles), 83 hr. westbound, 82 hr. 10 min. eastbound. Normal Consist: 10 cars, including chair, tourist sleeping, "palace" sleeping and dining



THE SUPER
12 cars, all-Pullman



BUSINESS REPLY CARD
First Class Permit No. 153; (Sec. 34.9 P. L. & R.) New York, N. Y.

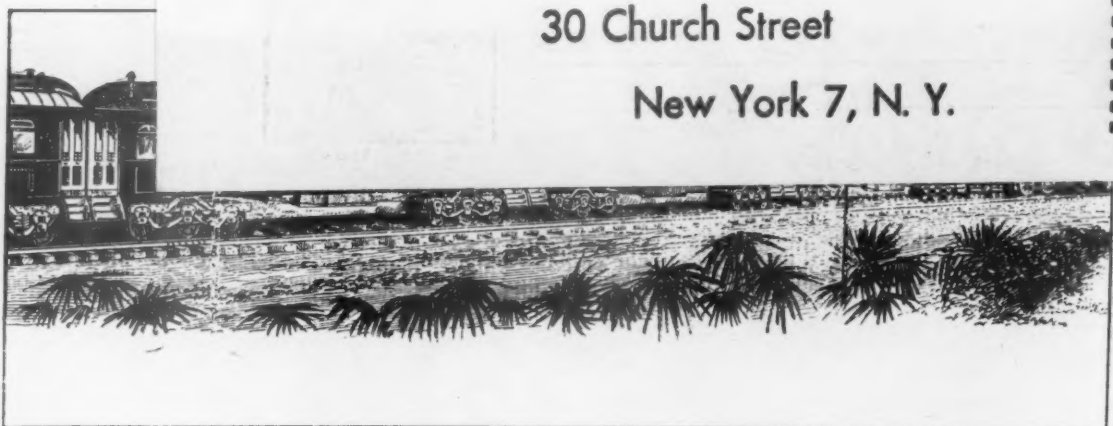
RAILWAY AGE

30 Church Street

New York 7, N. Y.



Atlantic Coast Line



THE NEW YORK-FLORIDA SPECIAL—1900 (P. R. R.-R. F. & P.-A. C. L.-F. E. C.)—New York-St. Augustine (1,050 miles), 30 hr. each way, tri-weekly in winter season. Normal Consist: 6 cars, all-Pullman, including sleeping and dining. Established in 1888, and a pioneer in using vestibuled platforms and electric lighting



THE FLORIDA SPECIAL —
1950 (P. R. R.-R. F. & P.-A. C. L.-F. E. C.)—New York-Miami (1,382 miles), 24 hr. 55 min. southbound; 25 hr. northbound; daily in winter. Normal Consist: 17 cars, all-Pullman, including sleeping, dining and lounge



Baltimore & Ohio

THE ROYAL LIMITED—1900 (C. of N. J.-P. & R.-B. & O.)—New York (Jersey City)-Washington (223 miles), 5 hr. southbound, 5 hr. 5 min. northbound. Normal Consist: 4 cars, all-Pullman, including parlor, observation-buffer, and dining (New York-Philadelphia)



THE ROYAL BLUE—1950 (C. of N. J.-Reading-B. & O.)—New York (Jersey City)-Washington (223 miles), 4 hr. southbound, 3 hr. 55 min. northbound. Normal Consist: 6 cars including parlor, coach, dining and "coffee shoppe"



Boston & Maine

NUMBERS 25 AND 64—Boston-Portland, via Eastern Route (115 miles), 3 hr. 15 min. southbound, 4 hr. northbound. Normal Consist: 12 cars, including coach and parlor (Note: Here No. 25 is at left; Stoneham local is in middle foreground)

THE FLYING YANKEE—1950—Boston-Portland, via Western Route (115 miles), 2 hr. 15 min. southbound; 1 hr. 55 min. northbound. Normal Consist: Includes parlor, dining and coach





Canadian National
— Grand Trunk
Western



THE INTERNATIONAL LIMITED—
Inaugurated 1900—Chicago-Mont-
real (840 miles), 23 hr. 50 min.
westbound; 22 hr. 45 min. east-
bound. Normal Consist: 6 cars, in-
cluding coach and sleeping

THE INTERNATIONAL LIMITED—
1950 — Chicago-Montreal (851
miles), 16 hr. 30 min. each way.
Normal Consist: 12-13 cars, includ-
ing coach, parlor, sleeping buffet-
lounge and dining



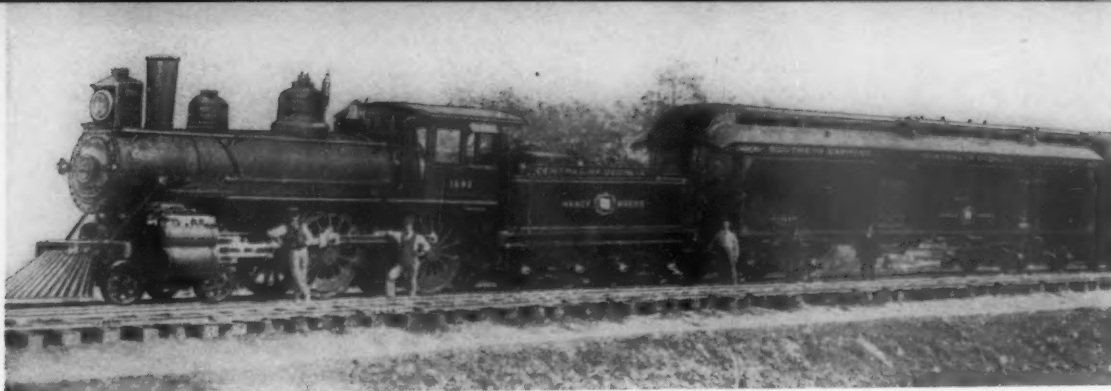
Canadian Pacific



NUMBERS 35 AND 36—1900—Montreal-Ottawa, via Vankleek Hill (112 miles), 2 hr. 25 min. westbound, 2 hr. 20 min. eastbound. Normal Consist: 4 cars, including coach and parlor

**THE DOMINION—1950—Montreal-Vancouver (2,881 miles), 87 hr. 15 min. westbound; 82 hr. 50 min. east-
bound (between Montreal and Ottawa, 2 hr. 10 min. each way). Normal Consist: 11-15 cars, including "col-
onist," coach, tourist sleeping, sleeping, dining and observation**

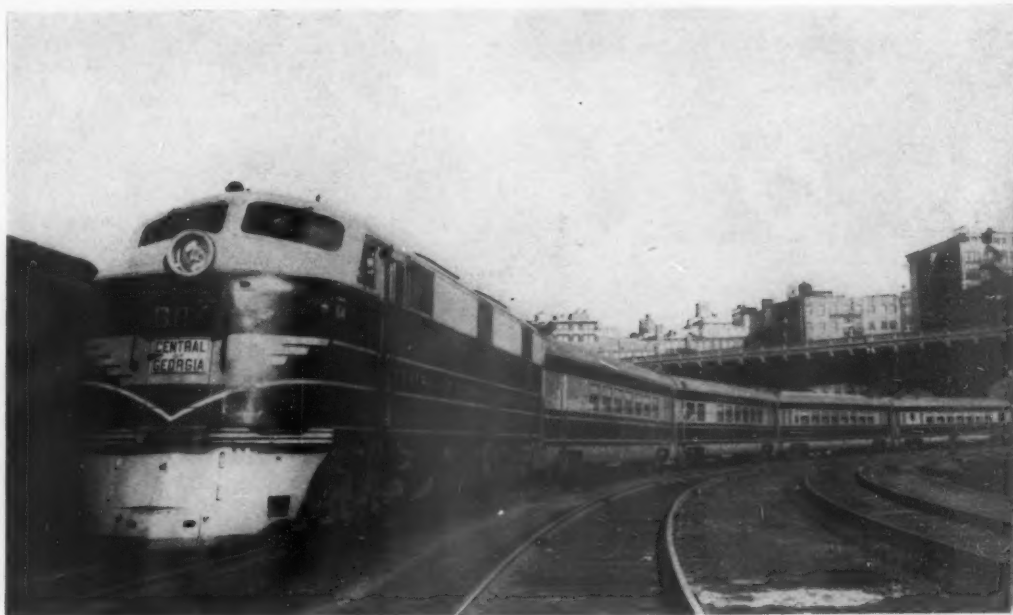




**CENTRAL
GEORGIA**

Central of Georg

THE NANCY HANKS—1892—
Savannah-Atlanta (294 miles), 8
hr. 35 min. westbound; 8 hr. 50
min. eastbound. Normal Consist:
4 cars, including coach



THE NANCY HANKS II—1950—
Savannah-Atlanta (294 miles), 5
hr. 40 min. each way. Normal
Consist: 5 cars, including coach



**JERSEY CENTRAL
LINES**

Central of
New Jersey

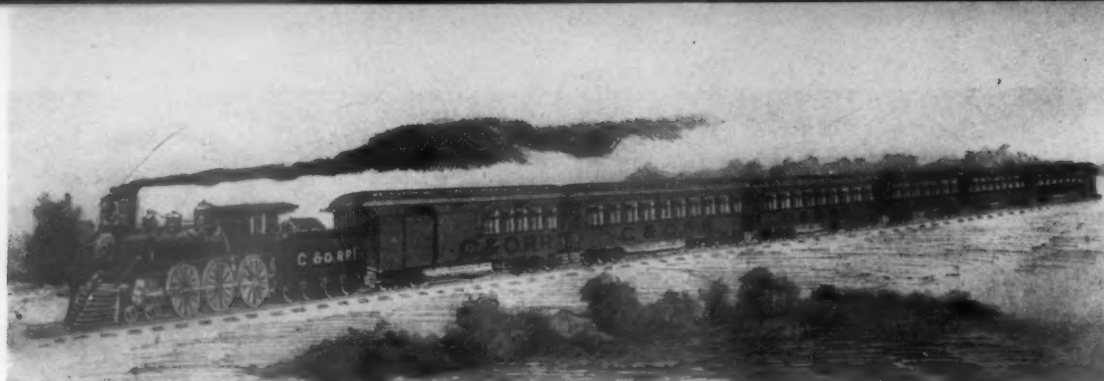
THE QUEEN OF THE VALLEY—
1901 (C. of N. J.-P. & R.)—New
York (Jersey City)-Harrisburg (180
miles), 6 hr. 15 min. westbound,
5 hr. 55 min. eastbound. Normal
Consist: 3 cars, including parlor
and coach

AFTERNOON COMMUTER TRAIN
—1950—Most of the Central's
passenger revenues come from
commuters. It was one of the first
roads to employ Diesels in this
service. It is also part of the
"Royal Blue Route," New York-
Washington (see B. & O.)





Chesapeake & Ohio



THE FAST FLYING VIRGINIAN
—1891 (P. R. R.-C. & O.)—New York (Jersey City)-Cincinnati (824 miles), 24 hr. each way in 1900. Normal Consist: 5 cars, including coach, sleeping and dining (train painted cadmium yellow and Tuscan red, and all cars repainted simultaneously)

THE FAST FLYING VIRGINIAN
—1950—New York-Cincinnati (824 miles), 20 hr. 30 min. westbound, 18 hr. 25 min. eastbound (excluding layover en route). Normal Consist: 5 cars, including coach, dining and sleeping



Chicago & Eastern
Illinois



THE CHICAGO AND NASHVILLE LIMITED—1900 (C. & E. I.-L. & N.)—Chicago-Nashville (444 miles), 12 hr. 30 min. southbound, 12 hr. 39 min. northbound; elapsed time on C. & E. I., 287 miles, 7 hr. 44 min. southbound, 7 hr. 49 min. northbound (Picture shows a local train in 1891). Normal Consist: including sleeping and coach

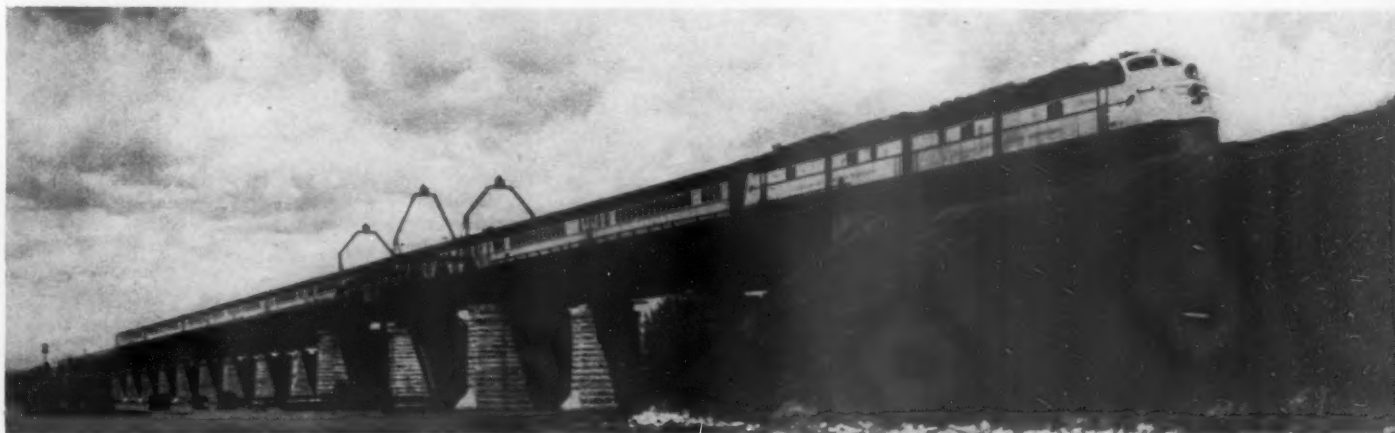


THE DIXIE FLAGLER — 1950 (C. & E. I.-L. & N.-N. C. & St. L.-A. C. L.-F. E. C.) — Chicago-Miami (1,452 miles), 31 hr. 35 min. southbound, 31 hr. 30 min. northbound (every third day); elapsed time on C. & E. I., 287 miles, 5 hr. 55 min. southbound, 5 hr. 50 min. northbound. Normal Consist: 10 cars, including sleeping, coach, dining and observation lounge

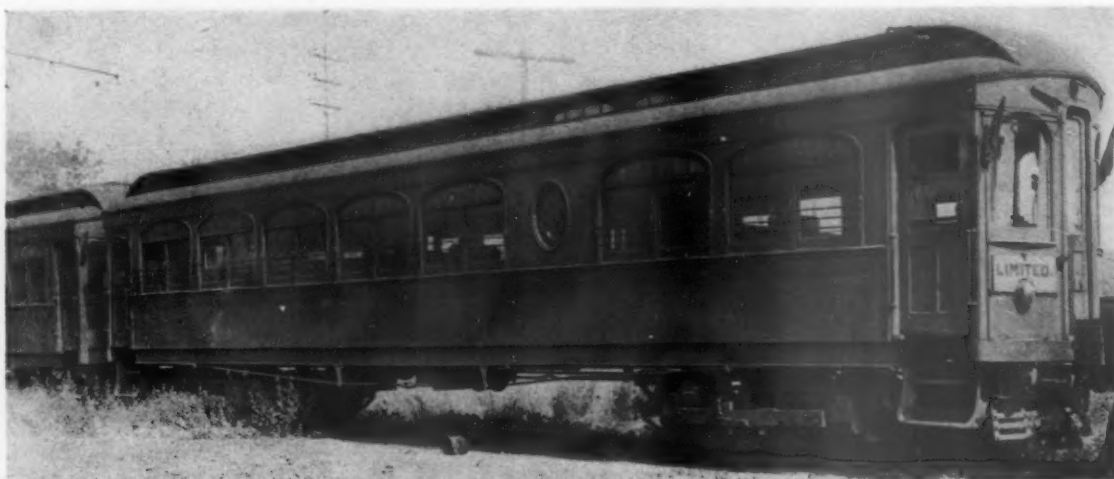


Chicago &
North Western

THE OVERLAND LIMITED—1900 (C. & N. W.- U. P.-S. P.)—Chicago-San Francisco (2,260 miles), 72 hr. 45 min. westbound, 69 hr. 30 min. eastbound. Normal Consist: 7 cars, all-Pullman, including sleeping, dining and buffet-library



THE PENINSULA "400"—1950—Chicago-Ishpeming (393 miles), 7 hr. 25 min. southbound, 7 hr. 45 min. northbound. Normal Consist: 13 cars, including coach, parlor, tavern-lunch and dining



C.A. & E.

Chicago, Aurora
Elgin

COMMUTER TRAIN—1905

COMMUTER TRAIN—1950

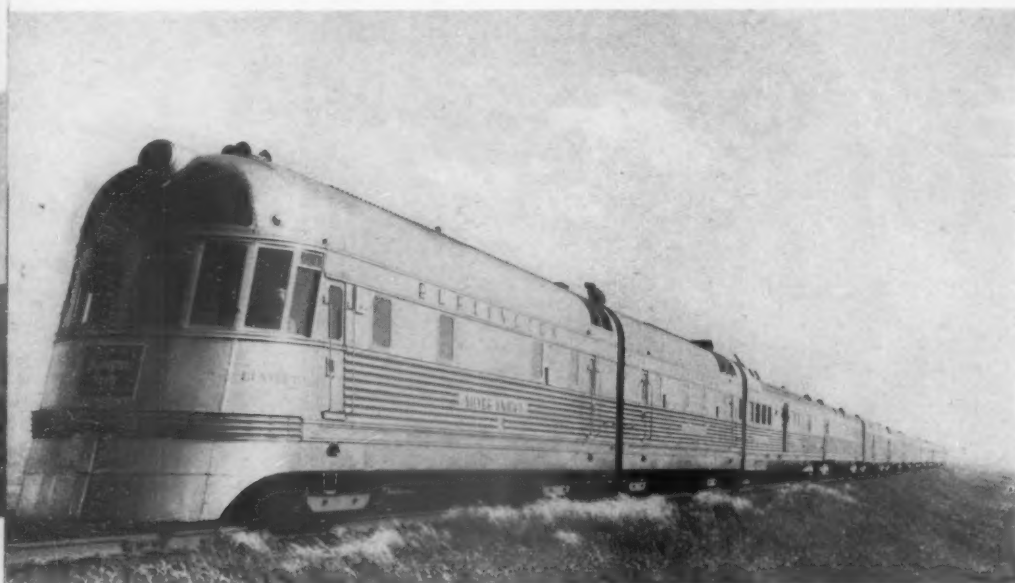


**Burlington
Route**

**Chicago, Burlington
& Quincy**



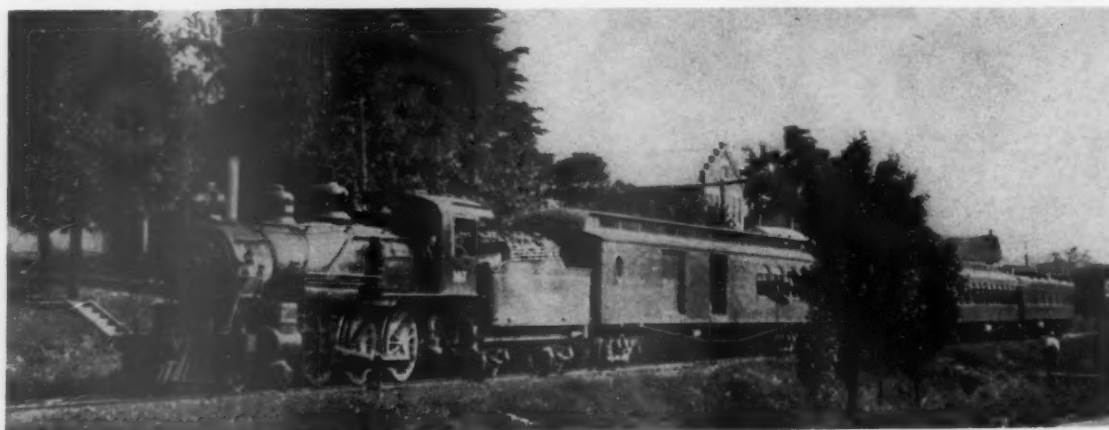
NUMBERS 1 AND 6—1900—
Chicago-Denver (1,025 miles), 27
hr. 30 min. each way. Normal
Consist: 9 cars, including chair,
sleeping, tourist sleeping and buf-
fet (Note: This illustration is from
a photograph snapped by the
train itself through rail contact)



**THE DENVER ZEPHYR (Nos. 1
and 10)—1950—**Chicago-Denver
(1,034 miles), 16 hr. 30 min.
westbound, 16 hr. 5 min. east-
bound. Normal Consist: 11 cars,
including chair, sleeping, parlor,
lounge and dining

MONON ROUTE

**Chicago,
Indianapolis &
Louisville**



NUMBERS 30 AND 33—1900—
Chicago-Indianapolis (184 miles),
4 hr. 53 min. southbound, 5 hr. 5
min. northbound. Normal Consist:
4 cars, including coach "with the
Monon celebrated high-back
seats," parlor, dining. (The train,
built in company shops, was
placed in service in 1900)



THE HOOSIER—1950—Chicago-
Indianapolis (184 miles), 3 hr. 50
min. southbound, 3 hr. 55 min.
northbound. Normal Consist: 6
cars, including coach, observation-
lounge-parlor and dining

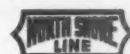


Chicago, Milwaukee
St. Paul & Pacific

THE PIONEER LIMITED—1900
—Chicago - Minneapolis (421 miles), 13 hr. 50 min. westbound, 14 hr. eastbound. Normal Consist: Including compartment, sleeping, buffet-library, chair, coach and dining



THE PIONEER LIMITED—1950
—Chicago - Minneapolis (421 miles), 9 hr. 25 min. westbound, 8 hr. 50 min. eastbound. Normal Consist: 9 cars, including sleeping, coach and dining



Chicago North Shore
& Milwaukee

THE CHICAGO LIMITED—1907
—Chicago-Milwaukee (86 miles). Normal Consist: 2 cars

ELECTROLINER — 1950 — Chicago-Milwaukee (86 miles). Normal Consist: 4 articulated cars, including lounge, buffet and coach

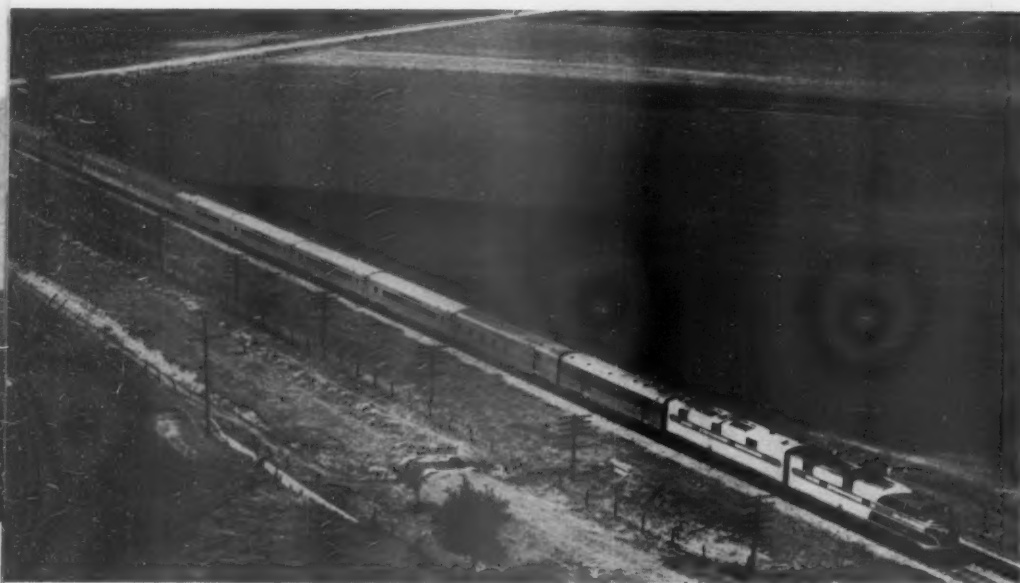




Chicago,
Rock Island &
Pacific



THE GOLDEN STATE LIMITED
—Inaugurated 1902 (C. R. I. & P.-S. P.)—Chicago-Los Angeles (2,324 miles), 68 hr. 5 min. westbound, 64 hr. eastbound. Normal Consist: 5 cars, all-Pullman, including sleeping, buffet-library, compartment, observation, dining (through sleeping, Chicago-San Francisco) (Illustration shows first run of train)



THE GOLDEN STATE LIMITED
—1950—Chicago-Los Angeles (2,324 miles), 44 hr. 15 min. each way. Normal Consist: 13 cars, including observation lounge, sleeping, dining, coffee shop and chair

SOUTH SHORE
LINE

Chicago
South Shore
& South Bend



LOCAL TRAIN—1907

EXPRESS TRAIN—1950



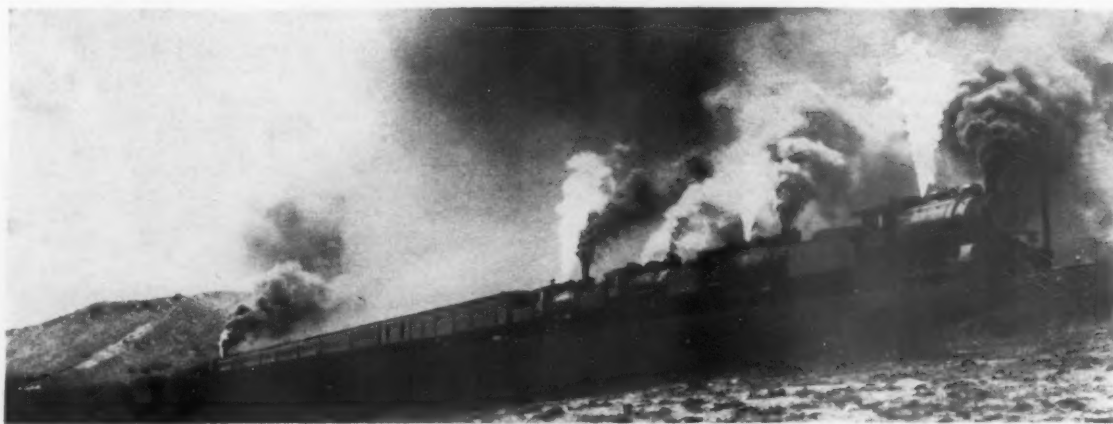
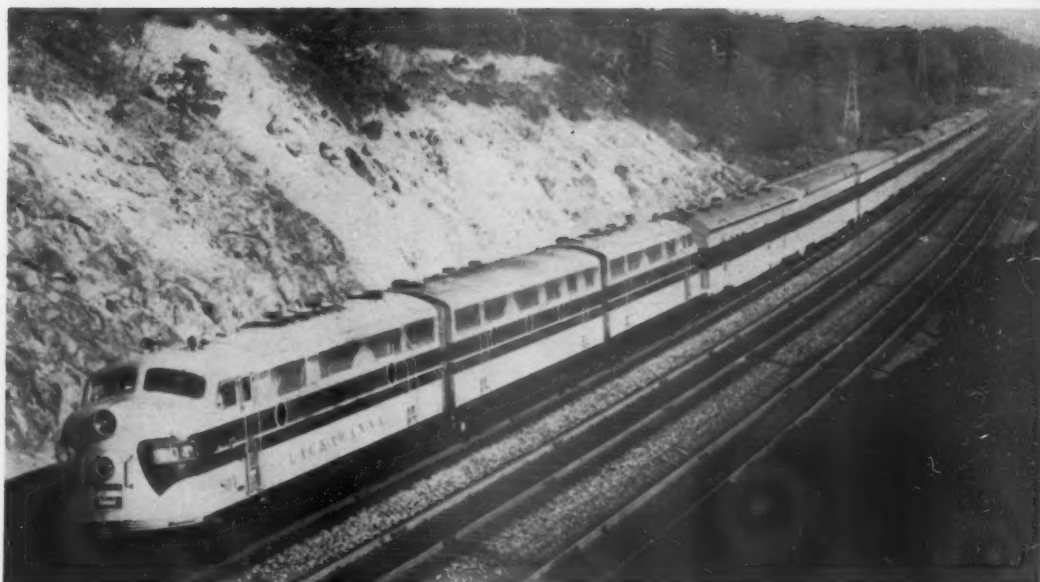


Lackawanna
Railroad

Delaware,
Lackawanna &
Western

THE LACKAWANNA LIMITED—
1904—New York (Hoboken)-Buf-
falo (409 miles), 9 hr. 45 min.
westbound, 9 hr. 49 min. east-
bound. Normal Consist: 6 cars,
including sleeping, observation-
parlor, parlor, dining, coach
(through sleeping service, New
York-Chicago, via Wabash)

THE PHOEBE SNOW—1950—
New York (Hoboken)-Buffalo (396
miles), 8 hr. 15 min. each way.
Normal Consist: 8-9 cars, includ-
ing observation-lounge, sleeping,
coach, dining (through sleeping,
New York-Chicago, via Nickel
Plate). (Note: Train named
"Lackawanna Limited" was in
uninterrupted service from 1872
to 1949, a period of 77 years,
until replaced by the "Phoebe
Snow")



MAIN LINE
Rio Grande

Denver &
Rio Grande Western

THE CHICAGO AND SAN FRANCISCO EXPRESS (C. B. & Q.-D. & R. G.-S. P.)—Chicago-San Francisco (Oakland) (2,643 miles), 67 hr. 15 min. westbound, 72 hr. eastbound. Normal Consist: 8 cars, including sleeping, tourist sleeping, dining, and coach

THE CALIFORNIA ZEPHYR—1950 (C. B. & Q.-D. & R. G. W.-W. P.)—Chicago-San Francisco (Oakland) (2,533 miles), 50 hr. 45 min. westbound, 50 hr. eastbound. Normal Consist: 12 cars, including "vista dome" coach, buffet-lounge, dining, sleeping and lounge-observation





Erie



THE VESTIBULED LIMITED—
1900—New York (Jersey City)-
Chicago (998 miles), 27 hr. 35
min. westbound, 27 hr. 55 min.
eastbound. Normal Consist: 6-10
cars, including coach, sleeping
and dining



THE LAKE CITIES—1950—New
York (Jersey City)-Chicago (998
miles), 21 hr. 35 min. westbound,
21 hr. eastbound. Normal Consist:
11-13 cars, including coach, sleep-
ing, dining and lounge

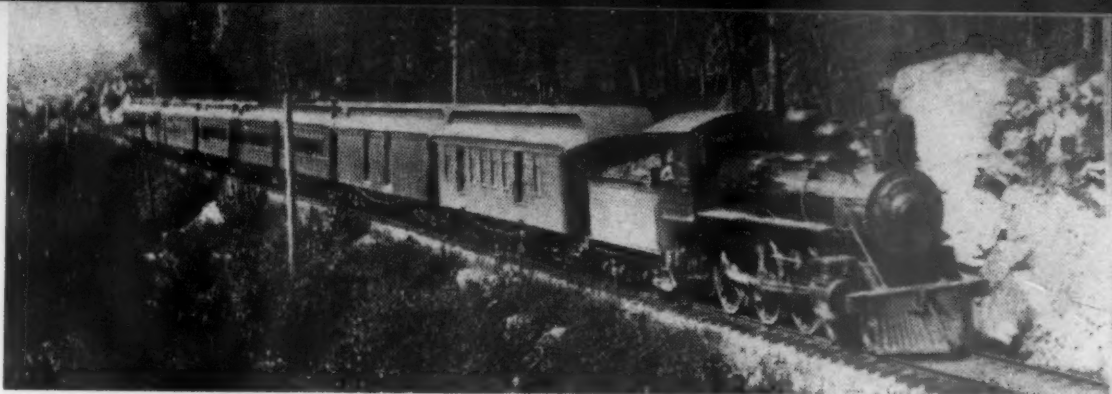


Florida East Coast



FIRST TRAIN INTO MIAMI—
1896—This road had only one
named train in 1900—the sea-
sonal "New York and Florida
Special" which it handled only
between Jacksonville and St.
Augustine, 30 miles (see A.C.L.).
The sole Jacksonville-Miami train
took 12 hr. 15 min. each way for
366 miles

EAST COAST CHAMPION—1950
(P. R. R.-R. F. & P.-A. C. L.-F.
E. C.)—New York-Miami (1,382
miles), 25 hr. southbound, 25 hr.
15 min. northbound; elapsed
time over F. E. C., 346 miles,
7 hr. each way. Normal Consist:
8 cars on F. E. C., including coach,
sleeping, lounge, tavern-lounge
and dining

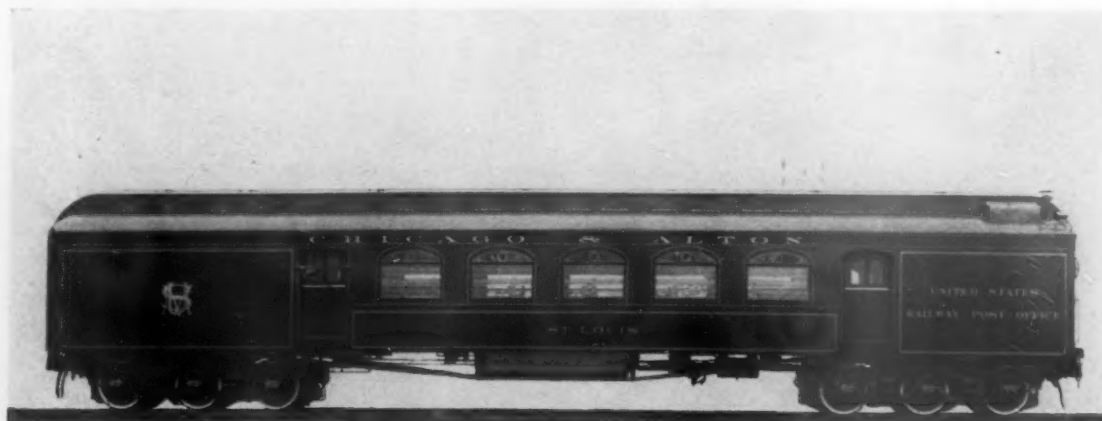


Great Northern

THE GREAT NORTHERN FLYER—1900—St. Paul-Seattle (1,823 miles), 63 hr. 28 min. each way. Normal Consist: 9-12 cars, including coach, sleeping, tourist sleeping, dining and buffet-library



THE EMPIRE BUILDER—1950 (C. B. & Q.-G. N.)—Chicago-Seattle (2,211 miles), 45 hr. each way. Normal Consist: 12 cars, including coach, coffee shop, dining, sleeping and observation-lounge



Gulf, Mobile & Ohio

THE ALTON LIMITED—1900 (Chicago & Alton)—Chicago-St. Louis (284 miles), 7 hr. 44 min. southbound, 7 hr. 54 min. northbound. Normal Consist: 6 cars, including coach

THE ALTON LIMITED—1950 —Chicago-St. Louis (284 miles), 5 hr. 10 min. southbound; 5 hr. 20 min. northbound. Normal Consist: 10-12 cars, including coach, parlor, observation-lounge and dining





Illinois Central



THE FAST MAIL—1906—Chicago-New Orleans (922 miles), 26 hr. 5 min. each way. Normal Consist: including coach, sleeping, parlor and dining



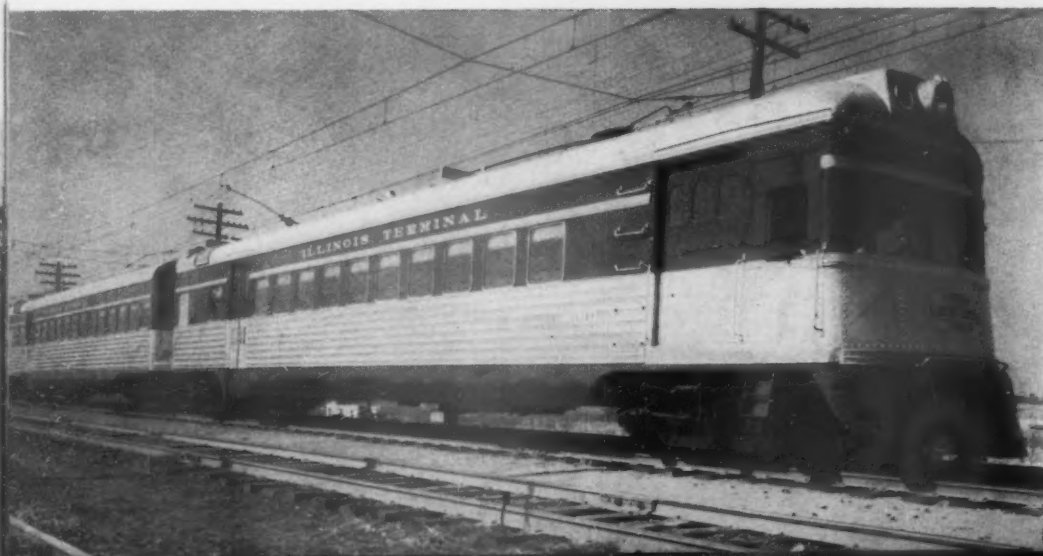
THE CITY OF NEW ORLEANS—1950—Chicago-New Orleans (921 miles), 15 hr. 55 min. southbound; 16 hr. 10 min. northbound. Normal Consist: 13 cars, including coach, tavern-lounge and dining



Illinois Terminal



SLEEPING CAR TRAIN—1910-1912 — St. Louis-Peoria (172 miles), 6 hr. 50 min. southbound; 6 hr. 45 min. northbound. Normal Consist: including coach and sleeping

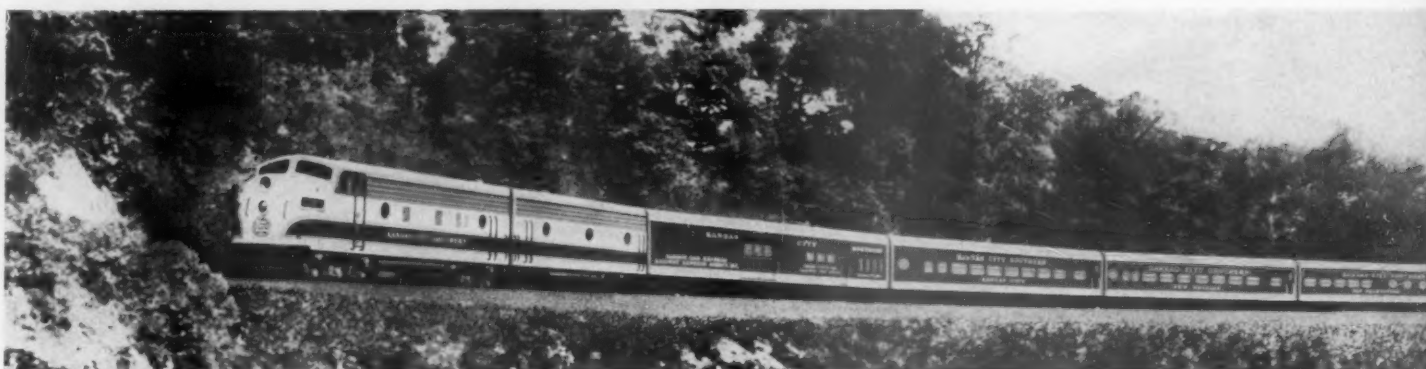


THE FORT CREVECOEUR—1950 —St. Louis-East Peoria (171 miles), 4 hr. 25 min. southbound, 4 hr. 30 min. northbound. Normal Consist: 3 cars, including coach, coach-observation and coach buffet



**Kansas City
Southern**

NUMBERS 1 AND 2—1900—Kansas City-Port Arthur (786 miles); 35 hr. 40 min. southbound, 35 hr. northbound. Normal Consist: including coach and buffet-sleeping



SOUTHERN BELLE—1950—Kansas City-Port Arthur (788 miles), 17 hr. 30 min. southbound, 17 hr. 40 min. northbound. Normal Consist: 7 cars, including chair, dining, tavern-lounge and sleeping



Lehigh Valley

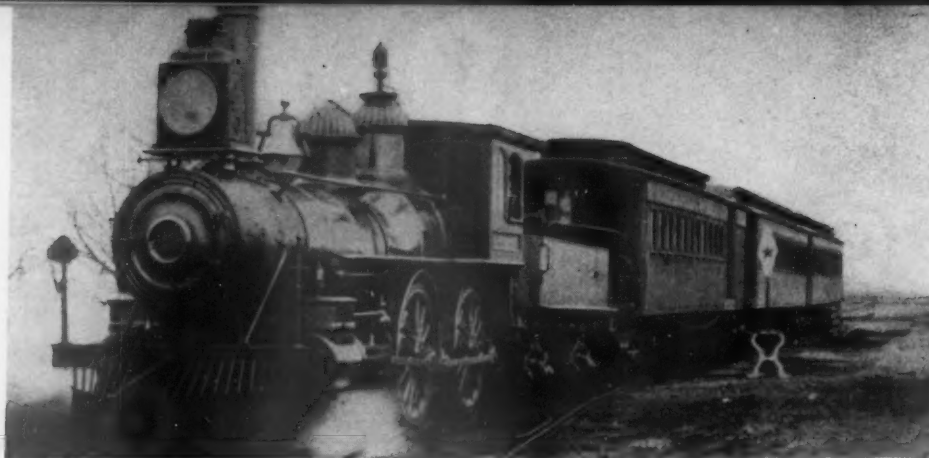
THE BLACK DIAMOND EXPRESS—at inauguration, 1896—New York (Jersey City)-Buffalo (447 miles), 9 hr. 41 min. westbound, 9 hr. 51 min. eastbound, as of 1900, with 13 scheduled stops. Normal Consist: 4 cars, including coach, observation-parlor and cafe-library

THE BLACK DIAMOND—1950—New York-Buffalo (448 miles), 9 hr. 45 min. westbound, 9 hr. 55 min. eastbound, with 19 scheduled stops. Normal Consist: 8 cars, including parlor, dining and coach





Long Island



COMMUTER TRAIN—1900—Only faint trickles of the hordes this road would later carry between New York and its

"dormitory" were evident at the turn of the century. In May, 1900, the L. I. was acquired by the Pennsylvania



COMMUTER TRAIN—1950—The country's busiest commuter railroad is now, once again, "on its own"

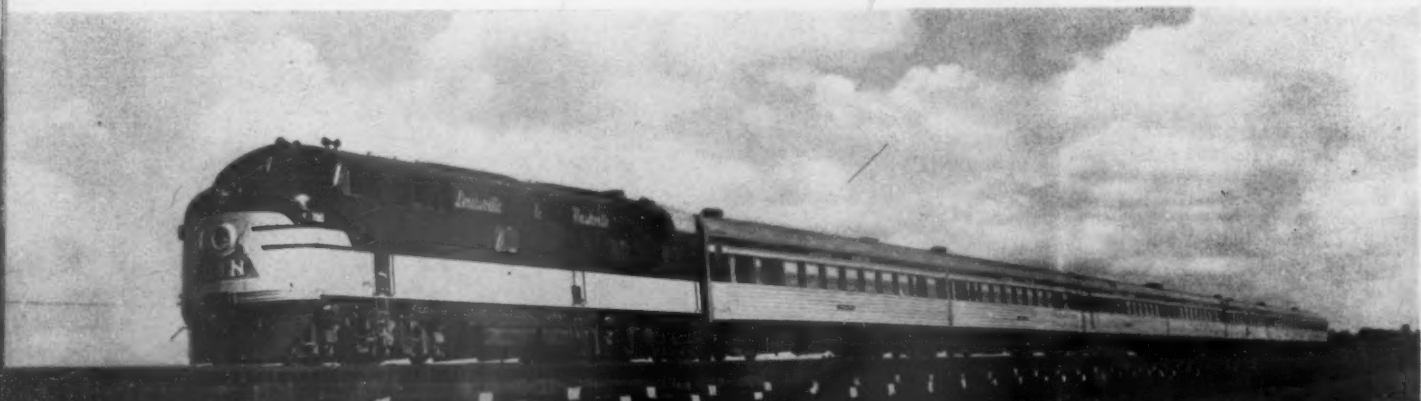


Louisville & Nashville



NUMBERS 7 AND 8 (LOCAL ACCOMMODATION)—1900—Nashville-Tuscumbia (134 miles), on Nashville-Florence-Sheffield branch; 4 hr. 45 min. southbound, 5 hr. 10 min. northbound. Normal Consist: 2 cars

THE HUMMING BIRD—1950—Cincinnati-New Orleans (922 miles), 19 hr. 5 min. southbound, 19 hr. 35 min. northbound. Normal Consist: 7 cars, including dining, tavern-lounge, sleeping and coach

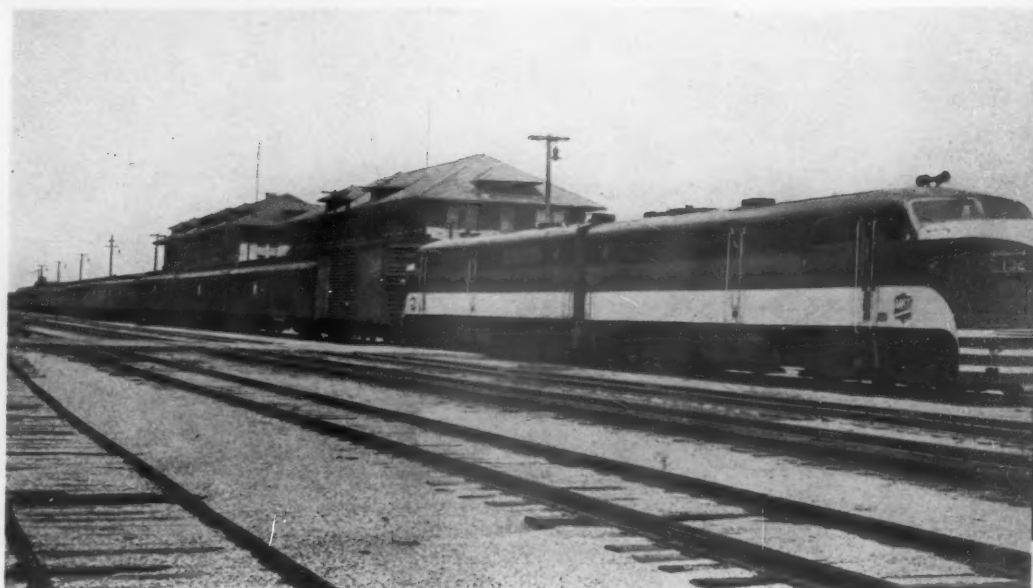




Missouri—Kansas—
Texas

THE KATY FLYER—1900—
St. Louis - Galveston (1,156
miles), 39 hr. southbound, 38
hr. 17 min. northbound. Nor-
mal Consist: 7 cars, including
sleeping, chair and coach

THE KATY FLYER—1950—
St. Louis-San Antonio (1,039
miles), 33 hr. southbound, 32
hr. 30 min. northbound. Nor-
mal Consist: including sleeping,
chair, dining and coach



Missouri Pacific

**NUMBERS 55 AND 56—1900 (St. L. I.
M. & S.-T. & P.-I. & G. N.)—St. Louis-San
Antonio (924 miles), 35 hr. 15 min. south-
bound, 34 hr. 25 min. northbound. Normal
Consist: 6-7 cars, including buffet-sleeping
and chair**

THE TEXAS EAGLE (SOUTH TEXAS)—
1950—St. Louis-San Antonio (924 miles),
18 hr. 10 min. each way. Normal Con-
sist: 14 cars, including sleeping, coach,
lounge and dining





New York Central



THE TWENTIETH CENTURY LIMITED—Inaugurated 1902—New York-Chicago (961 miles), 20 hr. each way. Normal Consist: 5 cars, all-Pullman, including buffet-library, sleeping, sleeping-observation and dining



THE TWENTIETH CENTURY LIMITED—1950—New York-Chicago (961 miles), 16 hr. westbound, 15 hr. 30 min. eastbound. Normal Consist: 16 cars, all-Pullman, including club, kitchen, dining, observation and all-room sleeping



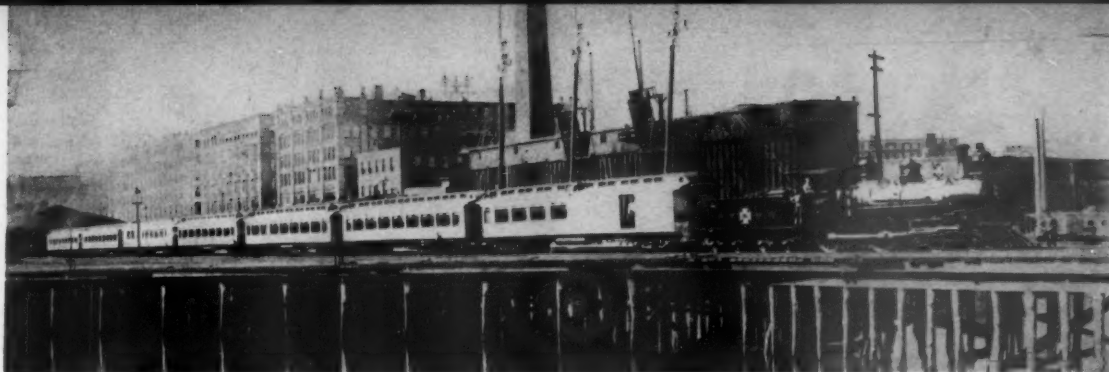
New York, Chicago
& St. Louis



THE ERIE, CLEVELAND, FT. WAYNE AND CHICAGO EXPRESS—1900—Buffalo-Chicago (523 miles), 16 hr. 25 min. westbound, 16 hr. 30 min. eastbound. Normal Consist: 6 cars, including coach, sleeping and dining (through cars to and from New York via D. L. & W.)

THE NICKEL PLATE LIMITED—1950—Buffalo-Chicago (523 miles), 13 hr. 5 min. westbound, 12 hr. 10 min. eastbound. Normal Consist: 8 cars, including sleeping, lounge and coach (through cars to and from New York via D. L. & W.)





*The New York
New Haven
and Hartford*
RAILROAD CO.

New York,
New Haven &
Hartford

THE WHITE TRAIN (GHOST TRAIN)—1895—New York-Boston (213 miles), 5 hr. 40 min. each way. Normal Consist: 7 cars, including buffet-coach, parlor, dining and coach



New Subscription Order



Gentlemen:

SEND ME RAILWAY AGE FOR THE NEXT 52 WEEKS

— starting service on my subscription as soon as possible.

REGULAR 1 YEAR RATE \$6.—PROFESSIONAL RATE \$3. (to Railroad Men Only)

Name

Department Title

Company

Address

City Zone State

- ☐ \$3 Payment Attached
- ☐ \$6 Payment Attached
- ☐ Render your invoice when subscription begins

(Above rates apply only to U. S. and Canada)

18-28-50



Norfolk & Western

BRANCH LINE TRAIN—1892—

The N. & W. did not serve Cincinnati at the turn of the century, and the only named, limited trains on its rails were in joint service with the Southern via Lynchburg and Bristol and with the A. C. L. via Petersburg

THE POWHATAN ARROW —
1950—Norfolk-Cincinnati (677 miles), 15 hr. 40 min. westbound, 15 hr. 30 min. eastbound. Normal Consist: 7 cars, including coach, observation and dining





New York Central



THE TWENTIETH CENTURY LIMITED—Inaugurated 1902—New York-Chicago (961 miles), 20 hr. each way. Normal Consist: 5 cars, all-Pullman, including buffet-library, sleeping, sleeping-observation and dining



THE TWENTIETH CENTURY LIMITED
30 min. eastbound
all-room sleeping

Postage
Will be Paid
by
Addressee

No
Postage Stamp
Necessary
If Mailed in the
United States

BUSINESS REPLY CARD

First Class Permit No. 153; (Sec. 34.9 P. L. & R.) New York, N. Y.

RAILWAY AGE

30 Church Street

New York 7, N. Y.

**NICKEL
RATE
ROAD**

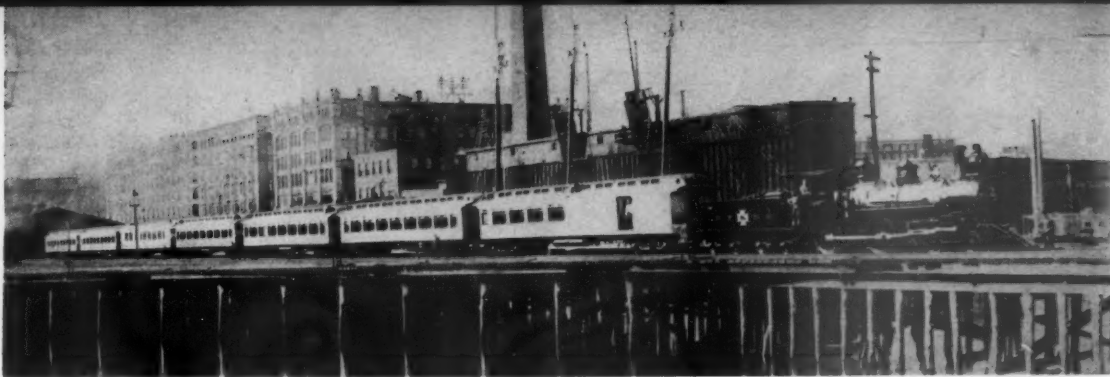
New York, Chicago
& St. Louis



THE ERIE, CLEVELAND, FT. WAYNE AND CHICAGO EXPRESS—1900—Buffalo-Chicago (523 miles), 16 hr. 25 min. westbound, 16 hr. 30 min. eastbound. Normal Consist: 6 cars, including coach, sleeping and dining (through cars to and from New York via D. L. & W.)

THE NICKEL PLATE LIMITED—1950—Buffalo-Chicago (523 miles), 13 hr. 5 min. westbound, 12 hr. 10 min. eastbound. Normal Consist: 8 cars, including sleeping, lounge and coach (through cars to and from New York via D. L. & W.)





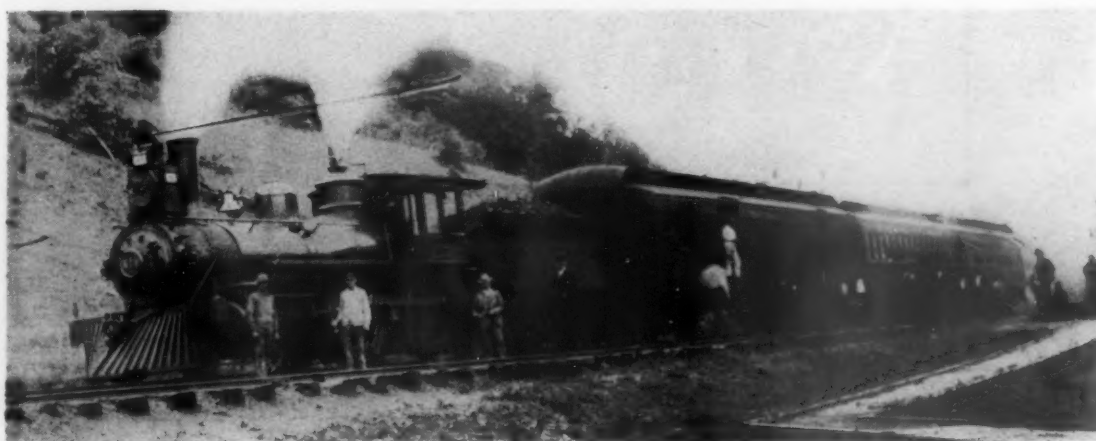
*The New York
New Haven
and Hartford*
RAILROAD CO

New York,
New Haven &
Hartford

THE WHITE TRAIN (GHOST TRAIN)—1895—New York-Boston (213 miles), 5 hr. 40 min. each way. Normal Consist: 7 cars, including buffet-coach, parlor, dining and coach



THE YANKEE CLIPPER — 1950
—New York-Boston (229 miles), 4 hr. each way. Normal Consist: 10 cars, including lounge, parlor, coach and dining



Norfolk & Western

BRANCH LINE TRAIN—1892—The N. & W. did not serve Cincinnati at the turn of the century, and the only named, limited trains on its rails were in joint service with the Southern via Lynchburg and Bristol and with the A. C. L. via Petersburg

THE POWHATAN ARROW — 1950—Norfolk-Cincinnati (677 miles), 15 hr. 40 min. westbound, 15 hr. 30 min. eastbound. Normal Consist: 7 cars, including coach, observation and dining





Northern Pacific



THE NORTH COAST LIMITED—Inaugurated April 29, 1900—St. Paul-Portland (2,056 miles). Normal Consist: 9 cars, including observation-buffer, sleeping and coach



THE NORTH COAST LIMITED—1950 (C. B. & Q.-N. P.)—Chicago-Seattle (2,331 miles). Normal Consist: 16 cars, including sleeping, tourist sleeping, coach, buffet-lounge and dining



Pennsylvania



THE PENNSYLVANIA LIMITED—1900—New York (Jersey City)-Chicago (911 miles), 23 hr. 46 min. westbound, 23 hr. 50 min. eastbound. Normal Consist: 7 cars, all-Pullman, including parlor-library, sleeping, compartment, observation and dining

THE BROADWAY LIMITED—1950—New York-Chicago (908 miles), 16 hr. each way. Normal Consist: 15 cars, all-Pullman, including all-room sleeping, dining, and lounge-observation

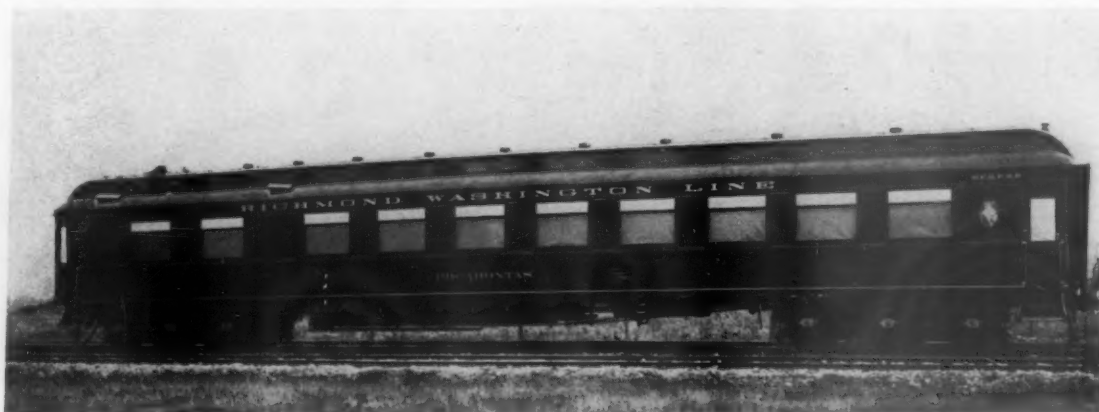


NUMBERS 511 AND 518—
1900—New York (Jersey
 City) - Philadelphia (90
 miles), 1 hr. 49 min. west-
 bound, 1 hr. 48 min. east-
 bound. Normal Consist: in-
 cluding parlor, coach and
 cafe (illustration shows cafe
 car placed in service in
 1905)



Reading

THE WALL STREET—1950—New
 York (Jersey City)-Philadelphia (90
 miles), 1 hr. 43 min. westbound,
 1 hr. 39 min. eastbound. Normal
 Consist: 5 cars, including dining,
 coach and club



**Richmond,
 Fredericksburg &
 Potomac**

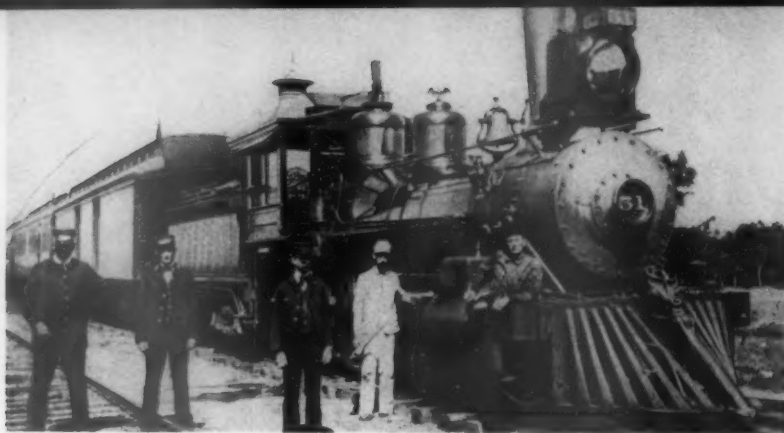
CAFE-PARLOR CAR—1906—In 1900 the R. F. & P. participated in through service between the Northeast and Southeast, as a link between Quantico, Va., and Richmond, 82 miles

CAFE-PARLOR CAR—1950—The R. F. & P. participates in through service between Northeast and Southeast, including heavy Florida business, as a link between Washington, D. C., and Richmond, 113 miles





St. Louis —
San Francisco



THE METEOR—Inaugurated 1902—St. Louis-Oklahoma City (542 miles), 17 hr. each way. Normal Consist: 5 cars, including chair, coach, sleeping and cafe-observation



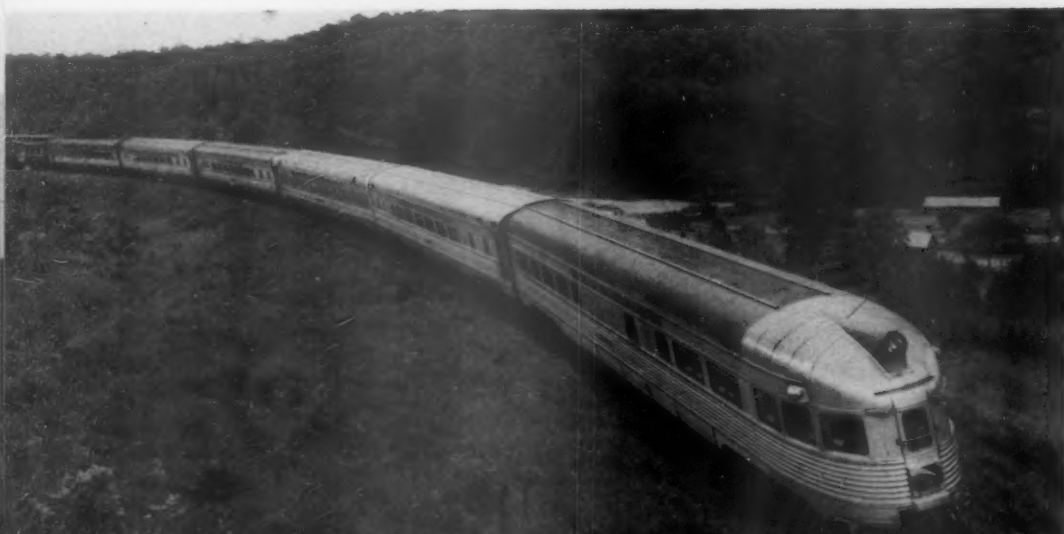
THE METEOR—1950—St. Louis-Oklahoma City (542 miles), 13 hr. 25 min. westbound, 12 hr. 45 min. eastbound. Normal Consist: 10 cars, including chair, dining-lounge-observation, sleeping and lounge-buffet



Seaboard Air Line



THE ATLANTA SPECIAL—1900 (P. R. R.-R. F. & P.-S. A. L.) — New York (Jersey City)-Atlanta (924 miles), 27 hr. southbound, 26 hr. northbound. Normal Consist: 5 cars, all-Pullman, including buffet-sleeping, sleeping and coach



THE SILVER COMET—1950 (P. R. R.-R. F. & P.-S. A. L.)—New York-Atlanta (921 miles), 18 hr. 50 min. southbound; 18 hr. 55 min. northbound. Normal Consist: 13 cars, including coach, sleeping, observation-tavern and dining

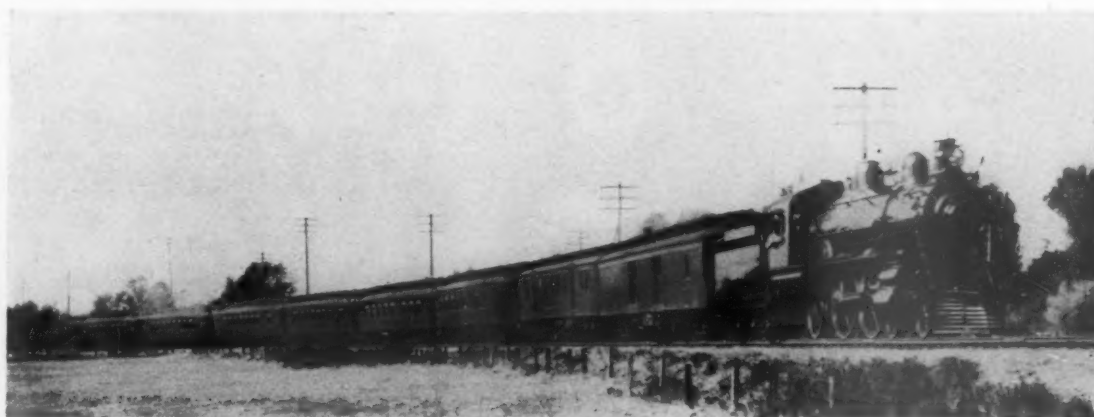


Southern

THE WASHINGTON & SOUTHWESTERN VESTIBULED LIMITED—1900 (P. R. R.-Southern-A. & W. P.-W. of Ala.-L. & N.)—New York (Jersey City)-New Orleans (1,372 miles) 39 hr. 55 min. southbound, 45 hr. 3 min. northbound. Normal Consist: including coach, sleeping, dining and library-observation (Note: Handled through tourist sleeping cars between Washington and San Francisco via New Orleans and S. P.)



THE NEW CRESCENT—1950 (P. R. R.-Southern-A. & W. P.-W. of Ala.-L. & N.)—New York-New Orleans (1,357 miles), 29 hr. 35 min. southbound, 33 hr. 15 min. northbound. Normal Consist: 14 cars (all-Pullman New York-Atlanta), including sleeping, coach, dining and observation



Southern Pacific

THE SUNSET LIMITED—1900—San Francisco-New Orleans (2,489 miles), 74 hr. westbound, 72 hr. 20 min. eastbound, tri-weekly. Normal Consist: all-Pullman, including cafe-bath-library, sleeping, dining, observation

THE SUNSET LIMITED—1950—Los Angeles-New Orleans (1,996 miles), 42 hr. each way, daily. Normal Consist: 14 cars, including sleeping, coach, dining, observation and coffee-shop-lounge





Texas & Pacific



NUMBERS 1 AND 2 (LOCALS)—
1893 — Fort Worth-Texarkana
(253 miles) 11 hr. 35 min. west-
bound, 10 hr. 35 min. eastbound.
Normal Consist: 5 cars, including
coaches

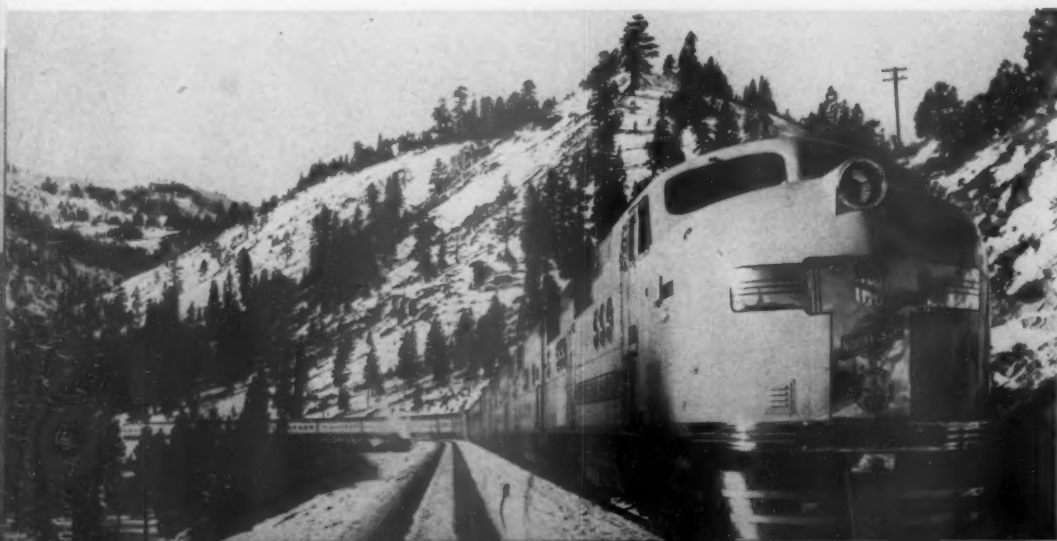
THE TEXAS EAGLE (NUMBERS
1 AND 2)—1950—Fort Worth-
Texarkana (249 miles), 5 hr. 5
min. Normal Consist: 13 cars,
including sleeping, dining-lounge,
and coach. (Through train St.
Louis-El Paso via M. P.-T. & P.)



Union Pacific



THE OVERLAND LIMITED—1900
(C. & N. W.-U. P.-S. P.)—Chi-
cago-San Francisco (Oakland)
(2,260 miles), 72 hr. 45 min.
westbound, 69 hr. 30 min. east-
bound. Normal Consist: 7 cars,
all-Pullman, including buffet-
library, sleeping and dining



CITY OF SAN FRANCISCO —
1950 (C. & N. W.-U. P.-S. P.)—
Chicago-San Francisco (2,189
miles), 40 hr. 15 min. westbound,
39 hr. 45 min. eastbound. Nor-
mal Consist: 15 cars, including
sleeping, coach, dining, club-
lounge, observation

THE CONTINENTAL LIMITED (Chicago Connection) — 1900—Chicago-St. Louis (286 miles), 7 hr. 51 min. southbound, 8 hr. northbound. Normal Consist: 6-10 cars, including sleeping, chair, parlor and cafe-library (Note: Limited carried through cars Kansas City-New York via Wabash-N. Y. O. & W.-West Shore)



Wabash

THE BLUE BIRD—1950—Chicago-St. Louis (286 miles), 5 hr. 25 min. southbound, 5 hr. 10 min. northbound. Normal Consist: 6 cars, including "dome" observation-parlor, "dome" chair, dining-lounge, and coffee shop-club

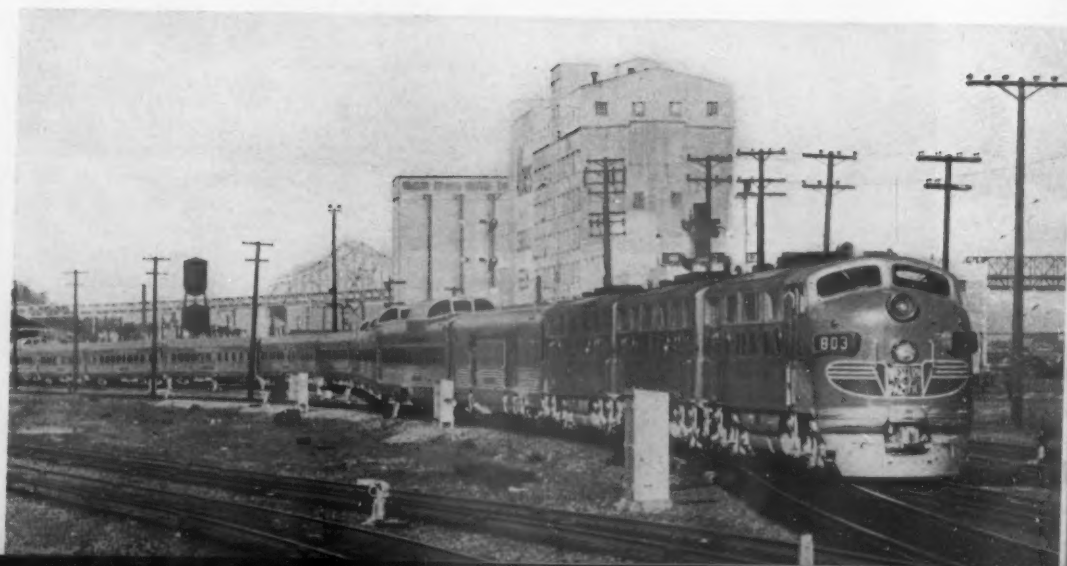


THE OVERLAND EXPRESS—Inaugurated August 22, 1910—San Francisco (Oakland)-Salt Lake City (921 miles), 36 hr. 29 min. westbound, 38 hr. eastbound. Normal Consist: 7 cars, including coach, tourist sleeping, dining, buffet-library, and observation. (Note: The W. P. began passenger service in 1910)



Western Pacific

THE CALIFORNIA ZEPHYR—1950—San Francisco (Oakland)-Salt Lake City (928 miles), 19 hr. 25 min. westbound, 19 hr. 20 min. eastbound. Normal Consist: 12 cars, including "vista dome" coach, buffet-lounge, dining, sleeping, and lounge-observation. (Note: This is a through train Chicago-San Francisco via C. B. & Q.-D. & R. G. W.-W. P. See under D. & R. G. W. for time)



Selling Tools Are Better Now

Aided by new printing techniques, new means of communication, and new types of passenger accommodations, the American railroads in the past half-century have made great progress in merchandising their passenger service. Also, the advertising today is more diversified than ever before, with the business man, the frugal coach traveler, the vacationer—be he “in the chips” or on a restricted budget—each getting more individual attention than he did 50 years ago. Hostess service and playrooms for the kiddies are advertised so that mama and papa may travel by train and enjoy at least a part of their trip in comparative comfort.

Generally speaking, the advertising of 50 years ago was supposed to mean all things to all people, while many of today's ads frequently are designed to attract the attention of a particular group of potential customers. The recent tendency has been to use color liberally and to cut down the amount of written copy which the prospect is required to read. In other words, pictures or sketches are doing the job now, while in dad's day words conveyed most of the message. When there is so much competition for the readers' attention, not only from rival transportation agencies, but from other advertisers as well, it is almost a necessity that pictorial advertising be used most. Publication advertising is of course followed up by booklets and brochures describing trains, tours and places of interest served by the railroad, which fully exploit the talents and techniques of the best commercial artists and printers.

Not to be forgotten either is the use of television and radio by such roads as the Boston & Maine; Atchison, Topeka & Santa Fe; New York Central; Baltimore & Ohio; New York, New Haven & Hartford; Kansas City Southern; Long Island; and Chicago & North Western. In some cases this advertising calls to people's attention the advantage of train travel as compared with plane or private automobile, particularly during periods of inclement weather, as the N.Y.C. has done in one-minute “spot” television announcements. The Boston & Maine featured dining car service on one of its radio broadcasts. The Long Island gives its patrons news, music



The Missouri Pacific is only one of many roads which invite possible customers in cities along the line to come down to the station to see for themselves the new equipment featured in railroad advertising. This has been a very successful way of “selling” modern passenger train service

Radio and television becoming increasingly important as sales weapons; timetables are simplified and more colorful

and commuter quizzes, complete with prizes. The Santa Fe, using T.V., features a series of Burton Holmes travelogues which show some of the country traversed by that road.

Competitive advertising in 1900, of course, featured the advantages one road considered it had over other railroads, while today competitive advertising is designed to combat the temptations offered the prospective traveler by the air lines and the industries promoting use of the family car. (An example is the Santa Fe's “you arrive and depart downtown” series, one sample of which is shown on a following page, where typical advertisements of 1900 and 1950 are compared.)

Timetables, always an important means of advertising in themselves, have been greatly improved and made more eye-catching by the effective use of color in the years since 1900. Also, a number of roads, especially in the West, now are publishing timetables which give the time of passing places of historic or other interest. (See Union Pacific timetable on the facing page.) The Missouri Pacific, for example, in each issue of its consolidated public timetable carries a piece on some city along its route, describing the advantages of living and working in that community. Similarly advertised are such events as the St. Louis municipal opera.

In one sense the older generation of railroaders sometimes made better use of their timetables as advertising pieces than do the moderns, unfortunately. Years ago it was comparatively easy to get one's hands on a railroad timetable, but this is not always true now. Even in some large stations it is rather difficult to procure them, while at a hotel one usually must seek out the porter or transportation desk, or racks all too frequently tucked away in some obscure corner, much less conspicuously displayed than are the timetables and literature promoting travel by other types of transportation.

Around 1900 some railroads advertised their services in circulars sent out by various hotels. Among such old-time ads is a cover from an advertisement of the Manhattan Beach and Oriental hotels at Manhattan Beach, Long Island, N. Y. On a reverse page the Long Island showed its schedules to and from the resort on the days when concerts with Gilmore's band and other entertainment attractions were featured. This sort of advertising has more or less gone by the board, except in those cases where the railroad has a proprietary interest in the hotels and vacation facilities.

Advertising the variety and comfort of passenger train accommodations is nothing new, but today's passengers have a wider variety of luxuries from which to choose, and the railroads have more varied means of letting the prospective traveler know what services and facilities he can command.

Yes, the modern salesman of passenger transportation has better help from advertising than did his counterpart of 1900. He needs it, under today's competitive conditions.

[illegible]

SCHEDULE OF JUNE 10										NEW YORK CENTRAL & TIME TABLE OF TRAINS BETWEEN NEW YORK AND									
SOUTH AND WESTWARD										NORTH AND EASTWARD									
Train	Dep. N.Y.	Arr. Albany	Dep. Albany	Arr. Buffalo	Dep. Buffalo	Arr. Cleveland	Dep. Cleveland	Arr. Detroit	Dep. Detroit	Arr. Chicago	Dep. Chicago	Arr. St. Paul	Dep. St. Paul	Arr. Minneapolis	Dep. Minneapolis	Arr. St. Louis	Dep. St. Louis	Arr. Kansas City	Dep. Kansas City
1	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00
2	7:15	7:45	8:15	8:45	9:15	9:45	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15
3	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30
4	7:45	8:15	8:45	9:15	9:45	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45
5	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00
6	8:15	8:45	9:15	9:45	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45	5:15
7	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30
8	8:45	9:15	9:45	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45	5:15	5:45
9	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00
10	9:15	9:45	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45	5:15	5:45	6:15
11	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30
12	9:45	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45	5:15	5:45	6:15	6:45
13	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00
14	10:15	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45	5:15	5:45	6:15	6:45	7:15
15	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30
16	10:45	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45	5:15	5:45	6:15	6:45	7:15	7:45
17	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	8:00
18	11:15	11:45	12:15	12:45	1:15	1:45	2:15	2:45	3:15	3:45	4:15	4:45	5:15	5:45	6:15	6:45	7:15	7:45	8:15
19	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:3										

[illegible]

		SARATOGA AND CHAMPLAIN DIVISIONS.											
		1	2	3	4	5	6	7	8	9	10	11	12
Saratoga Division													
Albany	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	1:00
Albany	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00	4:15
Albany	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15	6:30	6:45	7:00	7:15	7:30
Albany	7:45	8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30	10:45
Albany	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	1:00	1:15	1:30	1:45	2:00
Albany	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15
Albany	5:30	5:45	6:00	6:15	6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30
Albany	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45
Albany	12:00	12:15	12:30	12:45	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00
Albany	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15
Albany	6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15	9:30
Albany	9:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45
Albany	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00
Albany	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15	6:30	6:45	7:00	7:15
Albany	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30
Albany	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	1:00	1:15	1:30	1:45
Albany	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00
Albany	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15	6:30	6:45	7:00	7:15
Albany	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30
Albany	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	1:00	1:15	1:30	1:45
Albany	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00
Albany	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15	6:30	6:45	7:00	7:15
Albany	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30
Albany	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	1:00	1:15	1:30	1:45
Albany	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00
Albany	4:15	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:15	6:30	6:45	7:00	7:15
Albany	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30
Albany	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	1:00	1:		



You arrive and depart Down-Town on the Santa Fe

— not
out in the
country



When you're going somewhere, you want to be there when you arrive.
Go Santa Fe. You have no other trip when you plan to leave.
You arrive relaxed, refreshed, at a convenient station right downtown, close to your hotel or office.
Travel Santa Fe and you choose accommodations to suit yourself.
You get privacy as you like it. You have room to leave around when you want to. You enjoy wonderful food, hearty meals.
You're the judge. Go Santa Fe all the way!

Rule great
trains through

MOST MODERN TRAIN IN AMERICA!



New Streamliner WABASH Blue Bird between CHICAGO and ST. LOUIS



WABASH RAILROAD

Completely new streamliners to ride, the Wabash Blue Bird brings you the most modern train service in the world. Here's the reason: Comfort, speed, and service. Pullman Observation Parlor, Dining Car, and sleeping cars. Pullman's famous Pullman Dining Car. When you travel between Chicago and St. Louis, go Wabash Blue Bird. And remember, your trip is from downtown Chicago to downtown St. Louis.

BLUE BIRD SCHEDULE

WABASH	CHICAGO	ST. LOUIS	WABASH
6:00 pm	6:00 pm	6:00 pm	6:00 pm
6:45 pm	6:45 pm	6:45 pm	6:45 pm
7:30 pm	7:30 pm	7:30 pm	7:30 pm
8:15 pm	8:15 pm	8:15 pm	8:15 pm
9:00 pm	9:00 pm	9:00 pm	9:00 pm
9:45 pm	9:45 pm	9:45 pm	9:45 pm
10:30 pm	10:30 pm	10:30 pm	10:30 pm

ALL TIMES GIVEN IN STANDARD TIME



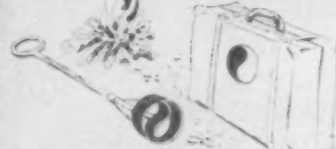
the New Empire Builder — a very nice way to travel

You had once imagined traveling in style. Now you can. The New Empire Builder is the most comfortable, most modern, most beautiful train you've ever seen. It's the way to travel.



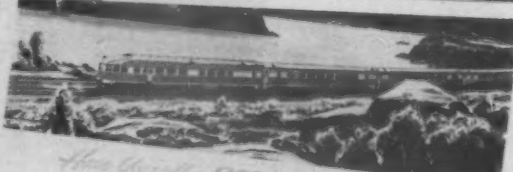
Treat your customers to the FAMOUS NP BRAND of WESTERN HOSPITALITY

via the streamlined
NORTH COAST LIMITED

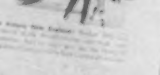


THE FINEST OF MODERN FACILITIES. Superior dining service. Comfortable sleeping quarters. Pullman's famous Pullman Dining Car. When you travel between Chicago and St. Louis, go Wabash Blue Bird. And remember, your trip is from downtown Chicago to downtown St. Louis.

G. W. BODINE, General Traffic Manager



...in air-cooled comfort and all-weather safety... as New York Central's money-saving round-trip fares!



NEW YORK CENTRAL



Left—IN 1900 INTER-LINE TICKETS VIED IN LENGTH WITH printing telegraph tape



Above—THE TRAIN BOSS ON NO. 3 sat down for the grueling task of inventorying the mail sacks in his charge

It Happened in Galesburg, Ill., on a Wednesday in 1900

ALLEN AYRAULT GREEN, OF THE UNIVERSITY OF CHICAGO, gained a national reputation for ingenuity as a photographer when he produced "the train that took its own picture," which appears elsewhere in this issue as a representative train of 1900 on the Chicago, Burlington & Quincy. Given the task of photographing the Burlington's "No. 1" while running at more than 60 m.p.h., this clever improviser achieved a shutter speed of one thousandth of a second and rigged up an electric switch connected to the rail by which the locomotive released the shutter.

Recently there came into possession of the Burlington a set of other photographs by Mr. Green which were taken in and around Galesburg, Ill., sometime in 1900. The scenes on the train are believed to have been taken on "No. 3" (Chicago-Denver). Since the sleeping car scenes were obviously taken in low-fare accommodations, the picture must have been taken on a Wednesday, since that is the only day in the week that No. 3 carried tourist sleepers. *Railway Age* is indebted to the Burlington's public relations department for the privilege of reproducing these rare and hitherto unpublished photographs.



THIS LADY THINKS ENOUGH OF THE TEA she is making from hot water provided by the station stove to give the photographer, we think, a "Come hither" glance



Above—THE TOURIST SLEEPER GAINED IN CHEAPNESS what it lacked in elegance. The big-eyed gentleman in the cap, on the right, perhaps has just discovered that he left his ticket at home

Right—AT THE TURN OF THE CENTURY travelers didn't care about their figures or their pocket books. They cheerfully paid as much as a dollar for a dinner like this

Below—THE NEWS BUTCHER AT THE TURN OF THE CENTURY was as dignified as a judge—with that collar he had to be





More Passengers —From Informed Ticket Agents

By C. L. SHORTRIDGE

Assistant Passenger Traffic Manager
Missouri Pacific Lines

THE AUTHOR—AND WHY

The American Association of Passenger Rate men heard—and liked—Mr. Shortridge at its annual meeting last year. *Railway Age* therefore asked him to set down some of his ideas for the wider audience of this Passenger Progress Issue.

The author entered railroad service as a yard clerk on the Missouri Pacific at his native town of Pleasant Hill, Mo., in 1917. The next year he shifted to the passenger end of the business as a ticket seller in the Kansas City union station. In 1920 he went on the road for the M.P. as traveling passenger agent, with headquarters at Dallas, Tex. In 1921 he was shifted to San Antonio. In 1926 he was appointed assistant general agent at Dallas; in 1928, general agent, passenger department, at Birmingham, Ala.; in 1931, district passenger agent at Los Angeles, Cal.; in 1936, assistant general passenger agent at Memphis, Tenn. On August 1, 1946, Mr. Shortridge became assistant passenger traffic manager for the M.P. at Houston, the position he now fills.

The author's hobby is skeet-shooting. He says he entered the railroad business "because in my little home town, there were only two desirable jobs for local boys—that of post office clerk and that of yard clerk for the M.P. I took the former first, then switched over to the railroad job because it paid \$10 more a month." Mr. Shortridge stayed in railroading "because it fascinated me." After 33 years in the game he wants the world to know "I wouldn't change jobs with anybody for anything."

To attract the maximum volume of passenger traffic we railroaders must explore and aggressively sell the *entire* market. This would seem obvious. Yet at times, it seems, we put forth our best efforts only in certain segments of that total market. In short, some of us concentrate on "class travel." We leave, by default, a broad and fruitful field for our competitors to exploit.

Specifically, I refer to the thousands of small, local stations on the railroads. To these stations go the rank-and-file to buy their transportation. They have no difficulty arranging for, and purchasing, their short-haul local tickets. But the matter is otherwise when they seek long-distance travel and, particularly, interline transportation.

Too often these customers encounter an inexperienced ticket clerk or station operator, whose knowledge of the pleasures and possibilities of railroad travel is small and whose skill in presenting information and completing ticketing operations is unsatisfactory. Worse, too many small-station public-contact employees show little interest

in pleasing actual or potential customers. Thus, from lack of knowledge and lack of interest there develops a "gulf" which perhaps does more to lose sales at local stations than all the railroads can do on a system basis to promote them. As far as the prospective passenger is concerned, the agent behind the ticket window is "the railroad." Considerations of service out on the road and of overall management are not present; the decision to go railroad or to go otherwise is often made as a result of treatment received at the local station.

Local Man Needs Help

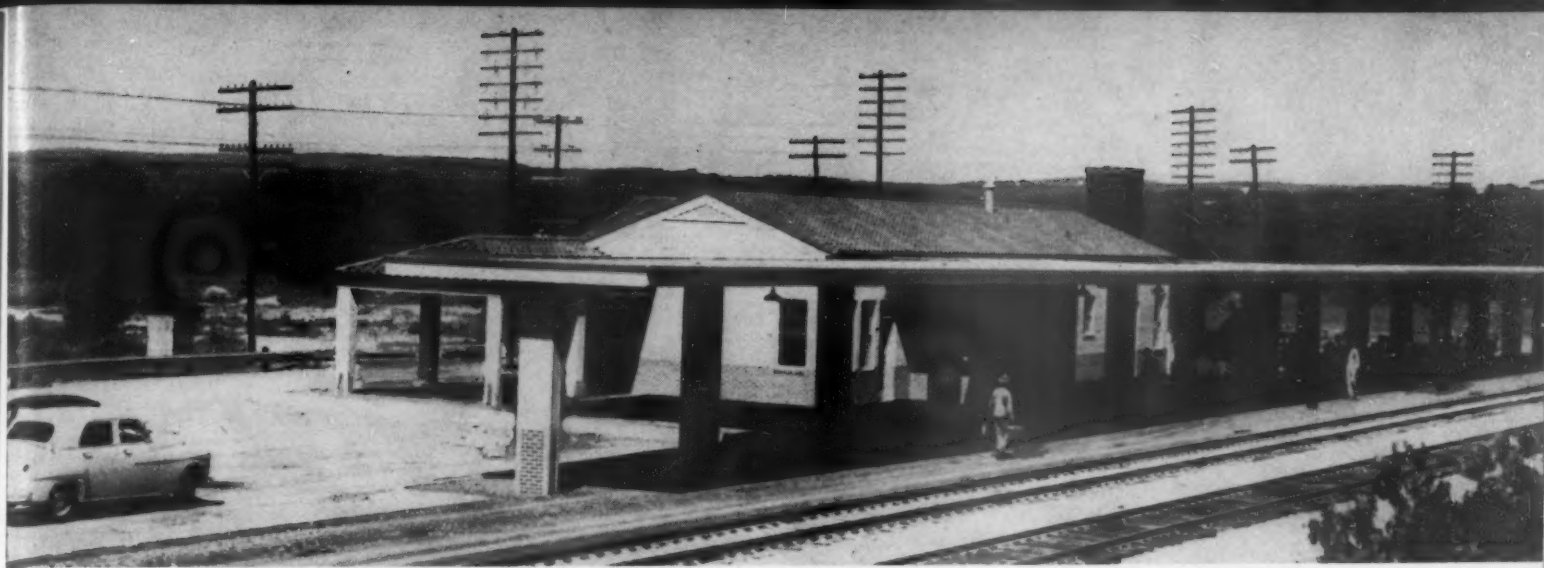
But before management criticizes lack of knowledge and interest in ticket offices it ought to find out why the deficiencies exist and what can be done about them. In general, local agents are left pretty much to their own resources. Usually they have a wide range of duties and cannot devote all, or even most, of their time to small-volume ticket sales.

It is true that the home offices of the railroads try, in a very limited way, to give local agents a measure of help through traveling passenger agents or other forms of representation. But does this help? How many traveling passenger agents or other passenger representatives are themselves experienced ticket sellers? Are they not usually in the territory on special assignments? Are they capable instructors? Whom, then, can the local agents look to—trainmasters or other operating officers? The obvious answer is "no."

Traveling Sales Instructors

A suggested corrective measure toward reducing these disabilities is to take a group of experienced ticket agents, or ticket sellers, and give them territories as "traveling ticket sales instructors." These men should be picked for their ability as ticket salesmen, for one thing, and for their fitness by temperament to impart knowledge to others. It is important that these instructors be given special training and a specific program to follow.

In brief, the day-to-day job of a traveling ticket sales instructor would be to work a day shift and a night shift, respectively, with regular employees throughout his territory. He would go into every phase of sales and service and explain, among other things, the proper maintenance of tariff files for quick and ready reference. But above and beyond these technical duties, the instructor would hammer home the value and importance of good public relations. And in doing so the instructor



Two well-informed ticket sellers will help tap a new passenger market at smaller stations

must realize that the quality of public relations stems from a proper mental attitude for the job, without which no lasting success can be achieved.

The Missouri Pacific is currently experimenting with an idea which should help solve the problem of training for small stations. Under the plan certain of the larger stations along the line are designated "big brother stations," and are furnished full-coverage tariffs. A given number of smaller "neighbor" stations look to them for assistance.

Thus far the plan is working nicely. The "big brothers" are proud of their ratings and, invariably, are anxious to help the smaller stations in every way possible. The latter, in turn, are relieved of time-consuming duties in keeping tariffs up to date and gain the important asset, so far as public relations is concerned, of confidence that accurate information is available. The plan also saves the cost of distributing expensive tariffs to many small stations, which, for the most part, find but infrequent use for them.

Practical tools for beginners in ticket sales work begin with a map of the United States. Here is the means by which the novice forms a mental picture of what he has to sell—passenger service on a nationwide basis. Next come his own company's timetable folders, with which to familiarize himself with the most important schedules and equipment. Next comes the Official Guide to study connecting line services and equipment.

With these tools digested, the new ticket seller is ready to take up tariffs. There he should learn to explore routes to given points, tracing those journeys, at the same time, on his map to complete the mental picture. Routing thus formulated, he goes on to the study of schedules in detail and, lastly, the important job of accurately determining equipment available.

In the important phase of learning his basic tools, the ticket seller, in my opinion, works best alone, once a few examples have been written out for his information and to provide perspective.

The more he can accomplish "on his own," the more the trainee will remember. At the same time he should be urged to ask questions of his seniors on the ticket sales staff, and such questions should be answered fully and completely.

But basic knowledge is not enough. The ticket seller is, first and foremost, a salesman. Knowledge, without the ability to put it into practice, is of no real value. The "payoff" comes in using the knowledge in the production of sales.

A good salesman must know his product; he must like and understand people. He must be courteous, patient and reasonably persistent. He must be able to give direct and correct answers, and, above all, he must be willing to do just a little bit more—to give just a bit more time than is actually required—to every detail of each sale. The last impression is what "brings 'em back again."

In my considered opinion, the railroads' passenger revenues can be increased if they are ready to accept the task and responsibility of improving sales methods at all of their local stations. As supervisors, we must start by laying out a well-planned program designed to accomplish two objectives:

First, we must show our own interest in local ticket sellers, agents, or operators, and stimulate their interest in increasing passenger sales. We can begin with personal contact and with written information. These avenues of communication should be pursued regularly—not spasmodically or piecemeal—with good usable "dope" on how better to understand tariffs, how to maintain files, and how to do a more skillful job in routing, making reservations and the other manifold phases of selling passenger transportation.

The better-informed local agents and sellers become, the more they will want to know. And increased knowledge will produce self-confidence—a natural springboard to increased ticket sales.

Second, once we have accomplished the objective of showing our interest, stimulating that of the ticket seller and giving elementary training—and the first bit of self-confidence produced thereby—the chance is at hand to initiate the actual sales training program, as outlined above.

I can think of no more fruitful market, immediately at hand, than that which can be tapped by an increase in the number of well-informed salesmen of transportation at local stations. Capture by hundreds of local stations of every dollar offered at their ticket windows will go far in leveling off the downward curve of railroad passenger revenues.

Railroaders should be reminded again that the local agent is usually one of the leading citizens in his community and that, as a rule, he is hardworking and conscientious. But he will not always have the means to keep fully informed and wholly "sales-conscious" unless we, in passenger traffic, make ourselves and our full facilities available to him and his staff. We can be assured that their service and support will be ours if we will help them to help us.

They Don't Even Look the Same

The same old equipment that was in service when grandfather was a boy." How many times have lay "experts" pronounced their judgment on the "backwardness" of the railroads in some such language! It has never been true with respect to any part of the railroad plant—the appearance of track, of signals; even that common denominator of all rail transportation, the box car, has changed markedly in a generation. But if some of these changes need the trained eye of a railroad man to appreciate them, the most superficial look of the least "expert" of laymen cannot fail to see that the passenger cars and passenger trains built today have little in common with the cars and the trains of even 15 years ago.

Superficial Aspects

What are these superficial aspects of change which are so readily apparent and why have they been made? Probably the most noticeable change is the disappearance of the clerestory roof and its replacement with an oval contour. Along with the clerestory has gone the hooded end. Most cars built during the past 15 years have roofs of uniform contour from end to end. Less generally, but still extensively in evidence, are the skirts which extend below the sides of the car body to conceal much of the underbody equipment. These changes, supplemented by the uninhibited use of color to emphasize the continuity of horizontal lines throughout the train, mark a change from the former emphasis on the individual car to emphasis on the unity of the train as a whole.

These changes in exterior appearance all sprang from two developments which appeared simultaneously during the middle 1930's. Air conditioning, which changed ventilation from the suction to the pressure type, left the clerestory with no function. Streamlining, which at the outset was based on engineering considerations as a means of reducing wind resistance to the movement of the train, condemned the hooded roofs at the ends of cars as inducers of air turbulence between cars and encouraged the use of outside rubber diaphragms to produce unbroken exterior surfaces throughout the train. The same considerations led to the adoption of flush windows and skirts.

The interior appearance of the modern main-line coach has undergone less change than any other type of passenger-carrying equipment, because seats have to be arranged in rows on either side of the aisle. Nevertheless, it is a far cry from the former standard red or green upholstery and walls of dark paneling or colors chosen to look dirty when they were clean. Thanks to air conditioning, colors of seat coverings, walls and floors may be chosen with the primary objective of pleasing the patrons. Colorful drapes are even added in some coaches. Coach lounging and toilet facilities have also been greatly improved.

The rapid relegating of the open sleeping-car section to a minor role in night travel accommodations and the variety of rooms which have been made available during the past 15 years have revolutionized this aspect of travel. But it is in dining and lounge cars that imagination and taste have had the greatest scope for producing striking effects. Here there have been almost no limitations on variety of arrangement or on variety of color and motif.

These cars have become the distinguishing features of most of the name trains which so many railroads are promoting—coach trains as well as parlor-car and sleeping-car trains.

These, and the notable absence of the steam locomotive at the head of most of the modern name trains, are the superficial aspects of solid progress in improving the quality and attractiveness of railway passenger service. Back of it are developments in science and engineering which are reflected in the products of many industries. Engineering skill has adapted these developments to the requirements of mobile equipment to make traveling a luxuriously comfortable interlude. What are the developments which form the solid core of this progress?

The past 50 years have seen two changes in the materials employed in the construction of railway cars. At the beginning of the century carbon steel had barely begun to replace wood as the material of construction for freight cars. By the end of the first decade passenger cars with steel underframes were rapidly coming into use and all-steel cars had made their first appearance. By 1935, 70 per cent of the passenger-train cars of all types on Class I railways were of all-steel construction and another 20 per cent had steel underframes.

About 1935 lightweight and corrosion-resistant high-strength materials began to supplant carbon steel in the construction of passenger cars. The major objective of this change was reduction in weight in order that higher speeds might become practical within the limits of horsepower available in the more powerful steam locomotives of then current design.

New Structural Materials

At the beginning of the century wood coaches and sleeping cars were being built with overall length up to about 78 ft. and the larger cars weighed upwards of 40 tons. By the time the new weight-saving materials were becoming available, cars of all-steel construction were being built with weights—for cars of overall lengths of 78 to 80 ft.—of about 70 tons for coaches and between 80 and 90 tons for sleeping cars.

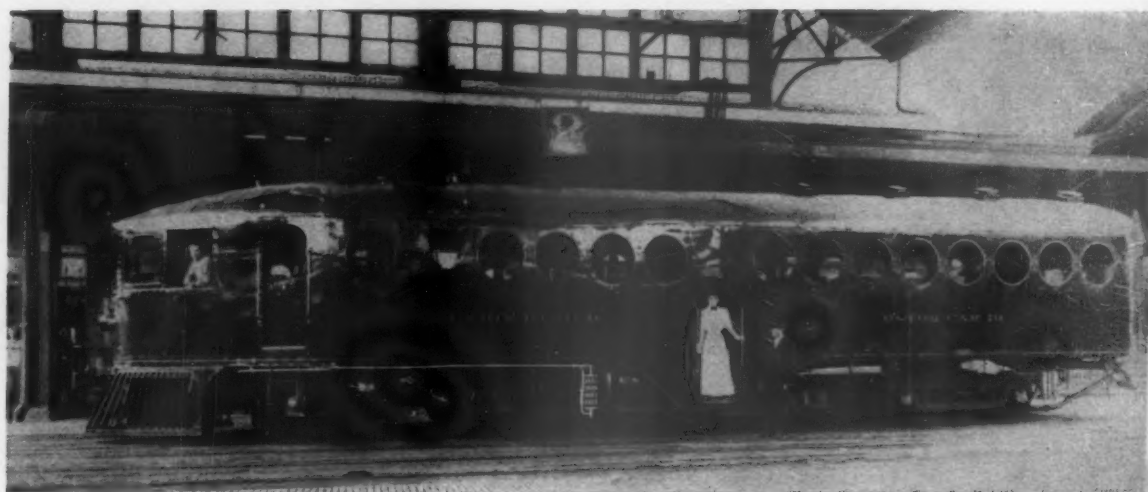
During the early application of the new materials every effort was made to achieve extreme lightness by resort to reduction in the width and height of car bodies and by articulation. As these developments stabilized, however, full cross-sectional dimensions were restored and, except in a few special cases, each car again became a separate vehicle, but with four-wheel instead of six-wheel trucks. Under these conditions weights settled down to approximately one-third less than those of equivalent carbon-steel cars of the early 1930's. Then began the piling on of new auxiliary equipment and facilities—mechanical refrigeration in dining cars, circulating ice water in sleeping cars, completely enclosed toilet rooms in every bedroom, radios and public-address systems. Power demands are no longer limited to four or five kilowatts, but, with the air-conditioning load, are now in the neighborhood of 25 or 30 kw. Thus, weight is again creeping up, but has not yet become so high as to require a general return to the six-wheel truck.

Reference has been made to the influence of air conditioning in bringing about some of the more superficial



Interior treatment has swung from the ornate to colorful simplicity—A Union Pacific buffet lounge car of about 1900 (left) and a modern D.L. & W. lounge buffet (right)

A McKeen motor car on the Union Pacific photographed in 1908. One of the earliest all-steel passenger cars was built for the Union Pacific to similar design, including the center vestibule, at about the same time



A combination baggage-coach of 1900



Open observation platforms were characteristic of the early years of the century

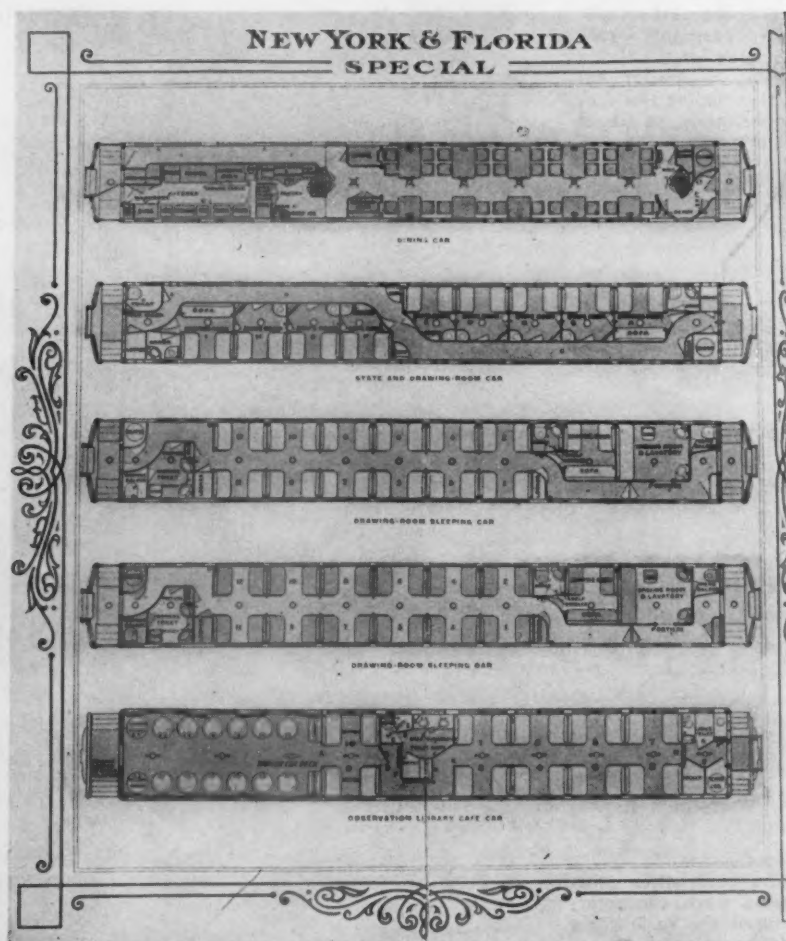




"Sunset Limited" cars, now and in 1902



Right—Accommodations of the "Florida Special" of the Pennsylvania, Richmond, Fredericksburg & Potomac, Atlantic Coast Line, and Florida East Coast of about 1900. Below—The Vista Dome is the modern version of the open observation "flat car"



aspects of change presented by recently built streamline passenger cars. To leave the matter there would misrepresent the significance of air conditioning. The control of temperature during warm weather receives the greatest popular attention, but of more far-reaching significance is the change from the persistent inflow of dust and cinders, whether windows are open or closed, to the virtually complete exclusion of dust and cinders. This has removed one of the greatest discomforts of railway travel. Its effect on the interior attractiveness of passenger-carrying cars has already been mentioned.

Comfort in Travel

Other changes which have affected the comfort and attractiveness of the passenger-car interior are in lighting, heating and seating. The contrast between the passenger coach of 1900 and that of 1950 is striking. Lighting then was either by gas or oil and the light was poorly distributed and of feeble intensity, judged by modern standards of illumination. It is true that electric lighting had had a limited application on passenger trains since the late 1880's and there were a number of trains on several railroads which were lighted from steam-driven electric generators (both reciprocating engines and turbines) in the baggage car at the head end of the train, or from straight storage battery systems. The carbon lamps of that day, however, offered little advantage in light quality or intensity over other light sources.

It is also true that axle-driven generators were in service during the decade prior to the turn of the century, but the early drives were not satisfactory. Furthermore, until about 1900, the current consumption of the early carbon-filament lamps was so heavy that economical car lighting by electricity was impossible. Aided by the tungsten lamp and the introduction of air conditioning and light-colored interiors in the early 1930's, train lighting became an example for others to follow. Since the adoption of the fluorescent lamp in 1938 passenger-car lighting has become a definite decorative feature.

Heating of passenger coaches has always been something difficult of satisfactory accomplishment. This applies particularly to the coach, with its large open space under the influence of frequently opened doors. Then there was the problem of safety. By 1900 the worst of the danger involved in car heating had been overcome. The old stove, with its tendency to scatter fire about the wood car in case of wreck and its poor heat distribution, had been quite generally replaced by the Baker type hot-water heater.

The use of a steam train line from which steam was drawn to heat the water in the Baker heater system was well developed by the beginning of the century, and the heaters were fired only for standby heating. Direct steam heat was also in use, although this involved the hazard of scalding the passengers should a radiator pipe fail. The vapor system of steam heat as it is known today appeared early in the first decade of the century. This basic system, supplemented by methods of zone control, adjustment to the relative needs of the two sides of the train, overhead heat, and thermostatic control, today provides, without regard to outside weather conditions, a degree of uniformity of temperature beyond the imagination of the traveler of 50 years ago. Indeed, heating and cooling, humidity and ventilation are treated as a single function and are regulated under a unified set of controls.

Superficially, the change in car seating which has taken place during the half century is not spectacular. Just as today, the double seats in many passenger coaches of 1900 had high backs with head rests, and chair cars furnished with double seats having individually reclining

backs and leg rests were available on many trains. A great change has taken place in the latter type of seats, however, since 1900. Those now being installed in chair cars are the result of intensive study to provide correct form and dimensions suitable to the comfort of a much higher percentage of the traveling public.

Another group of improvements which set off the cars being built today from those of 50 years ago are mechanical in character. Most of them have to do with operation, fitting the car for higher speeds and smoother running. To the extent that train operation has been made smoother by these developments, they have also contributed to the comfort and attractiveness of railway travel. During the past 15 years passenger-car trucks have been the subject of study and experiment to fit them for smooth riding at high speeds. These developments have resulted in the general use of snubbers and some increase in spring travel. Roller bearings have reduced rolling resistance, particularly at starting, have increased reliability at high speeds, and have contributed to reduced cost of servicing.

The high speeds which are becoming general in passenger service today would be impossible without the adaptation of brakes to keep stopping distances within limits characteristic of former top speeds of around 60 m.p.h. The HSC brake with electro-pneumatic control and wheel-slide or decelostat control has met this situation for speeds upward of 100 m.p.h. Tightlock couplers now being applied to practically all new passenger cars have gone far to eliminate uncontrolled slack in passenger trains, thereby contributing to smooth starts and less shocks en route. They also are a deterrent to jack-knifing and telescoping in case of accident.

The extent to which noise has been eliminated from the interior of passenger-cars has greatly improved the comfort of travel. This has been accomplished by breaking the chain of metal-to-metal contacts formerly reaching from the rail to the body center plate and side bearings. Similar insulation of the diaphragm suspension has also contributed notably to this improvement.

The widening of vestibule steps from 25 in. to 36 in. has facilitated entering and leaving trains. For long-distance trains with infrequent stops cars are now built with single vestibules, thus adding more than 3 ft. to usable space inside the car.

The Contrast—1900 and 1950

This review has carried passenger-car construction from wood through carbon steel to high-strength alloy steels and aluminum. During the 35 years of the carbon-steel phase of the passenger-car development weight and strength were considered synonymous. Equal strength is now obtained with approximately one third less weight of the car structure and trucks.

A typical passenger coach of 1900 was of all-wood construction, 68 to 70 ft. in length, seated 60 to 70 passengers, and weighed upwards of 35 tons. Hot water was seldom available in the washrooms, although it was becoming available in Pullmans, and cold water was raised manually by a compression faucet. Light was poorly distributed; heating was controlled manually; cinders were everywhere. Speed seldom exceeded 60 m.p.h.

The main-line coach of today is built of high-strength corrosion-resistant alloy steel or aluminum, is 85 ft. long and seats 44 to 60 passengers. It weighs from 62 to 68 tons. Plumbing; lighting; air conditioning, including heating and ventilation, and cleanliness are up to the standard of a modern hotel. Radio and public address systems are common. Top speeds are 80 to 100 m.p.h.

781 Passenger-Train Cars Delivered This Year

Passenger-train cars for domestic use delivered during the period January 1, 1950, to September 30 totaled 781, including 10 delivered by railroad shops. Making up this total were 320 sleeping cars; 239 coaches; 54 baggage-express and 51 multiple-unit and interurban cars; 48 dining and dining combination cars; 19 postal cars; 19 club, lounge, parlor and observation cars; 11 self-propelled cars; 6 coach combinations; 4 cars of other types and the 10 cars delivered by railroad shops. During the first nine months of 1949 passenger-train cars delivered for domestic use numbered 696, including 16 delivered by railroad shops.

Seventy-one passenger-train cars for domestic use were

PASSENGER-TRAIN CARS DELIVERED, 1934-1949

Year	Contract Shops	Company Shops	Export	Total
1949	915	16	80	1,013
1948	767	124	55	946
1947	670	191	26	887
1946	1,329*	8	35	1,372
1945	928*	3	0	931
1944	995*	8	0	1,003
1943	681*	4	21	706
1942	387*	31	11	429
1941	349*	0	14	363
1940	251	6	28	285
1939	276	0	0	276
1938	352	82	0	434
1937	557	72	0	629
1936	151	40	0	191
1935	200	5	0	205
1934	180	95	15	290

*Includes troop cars.

Source: American Railway Car Institute.

PASSENGER-TRAIN CARS ON ORDER FOR DOMESTIC SERVICE, OCTOBER 1, 1950

Railroad	No.	Type	Builder
Atchafalaya, Topeka & Santa Fe	27	Sleeping	Amer. Car & Fdy.
	4	Postal	Amer. Car & Fdy.
	1	Various	Amer. Car & Fdy.
	7	Dining	Pullman-Standard
	14	Various	Pullman-Standard
Baltimore & Ohio	2	Rail Diesel Car 1	Budd
Chesapeake & Ohio	4	Twin-Unit Dining	Pullman-Standard
Chicago, Burlington & Quincy	21	Double-deck Coach	Budd
	30	Baggage-Express	R.R. Shops
Denver & Rio Grande Western	2	Dining	Pullman-Standard
Erie	8	Postal	Amer. Car & Fdy.
Grand Trunk West.	4	Baggage-Express	Amer. Car & Fdy.
Great Northern	6	Postal	Amer. Car & Fdy.
	6	Baggage-Express	Amer. Car & Fdy.
	6	Coach	Amer. Car & Fdy.
	12	Various	Amer. Car & Fdy.
	6	Dining	Amer. Car & Fdy.
	42	Sleeping	Pullman-Standard
	14	Coach	Pullman-Standard
	4	Baggage-Express	R.R. Shops
Gulf, Mobile & Ohio	1	Self-Propelled Coach	Amer. Car & Fdy.
New York Central	50	Multiple-Unit Coach	St. Louis Car
	1	Rail Diesel Car	Budd
New York, Susquehanna & Western	4	Rail Diesel Car 1	Budd
Pennsylvania	3	Coach	Budd
	4	Sleeping	Amer. Car & Fdy.

PASSENGER-TRAIN CARS ORDERED, 1920-1949

Year	Carbuilders' Shops			Railroad Shops		Total
	Passenger Carrying	Non-Passenger Carrying	For Pullman Co.	Passenger Carrying	Non-Passenger Carrying	
1949	95	12	0	2	0	109
1948	444	62	0	0	0	506
1947	128	11	0	138	39	316
1946	1,114	62	0	56	6	1,238
1945	2,690*	213	0	90	0	2,993
1944	683*	32	0	10	0	725
1943	1,670*	0	0	0	15	1,685
1942	32*	2	0	0	0	34
1941	206*	115	197	31	0	549
1940	305	15	53	0	6	379
1939	175	21	125	0	0	321
1938	79	33	84	63	19	278
1937	181	145	171	39	31	567
1936	367	33	1	38	12	451
1935	48	69	10	6	0	133
1934	307	20	8	71	23	429
1933	13	1	3	2	0	19
1932	33	6	0	1	4	44
1931	10	21	1	3	2	37
1930	405	102	102	16	75	700
1929	767	677	550	26	363	2,383
1928	654	1,282	244	53	160	2,393
1927	993	471	118	84	27	1,693
1926	965	469	519	55	52	2,060
1925	1,002	699	479	20	74	2,274
1924	1,202	761	701	14	97	2,775
1923	762	930	424	18	98	2,232
1922	1,442	705	300	23	14	2,484
1921	125	11	100	1	50	287
1920	690	380	458	12	51	1,591

*Includes troop hospital, sleeping and kitchen cars.
Source: American Railway Car Institute.

ordered during the current year's first nine months, including 22 self-propelled cars, 4 baggage-express cars, 1 sleeping car and 44 ordered from railroad shops. On October 1 there were 287 passenger-train cars for domestic use on order and undelivered, including 34 on order from railroad shops, the lowest number on order on October 1 in any of the past five years. On that date in 1949 passenger-train cars on order totaled 1,175; in 1948 the figure was 2,091; in 1947 it was 3,012; in 1946 it was 2,821, and in 1945 it was 2,981. An accompanying table lists, by purchaser, the cars on order at the beginning of October, 1950.

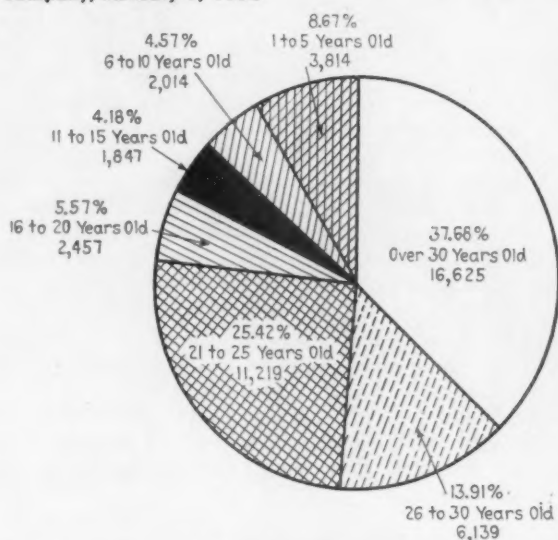
The number of passenger-train cars in domestic service on January 1, 1950, was 43,813, consisting of 1,756 postal cars, 13,919 baggage and express cars, 16,806 coaches, 931 parlor, club lounge, observation and sleeping combinations, 5,847 sleeping cars, 2,482 coach combinations, 1,803 dining cars and 269 cars of other types. Class I railroads of the United States and the Pullman Company owned 44,115 passenger-train cars on January 1 of this year. Age groups into which these Pullman and Class I-owned cars fall are shown in the accompanying graph.

During the past two years the Chesapeake & Ohio has sold to other railroads 85 new passenger-train cars originally ordered for its own use, as well as more than 100 old passenger cars. Among the roads which purchased these new cars were the Atlantic Coast Line (10 cars); the Baltimore & Ohio (10 cars); the Chicago & Eastern Illinois (8 cars); the Denver & Rio Grande Western (28 cars); the Illinois Central (13 cars); the New York Central (4 twin-unit dining cars); and the Seaboard Air Line (8 cars).

The Atlantic Coast Line's "East Coast Champion" on double track main line near Folkston, Ga.



Age of Passenger-Train Cars in the United States* Owned or Leased by Class I Railroads and Pullman Company, January 1, 1950



*Based on date originally built
Source: American Railway Car Institute



In this Chesapeake & Ohio stainless-steel coach a mid-car partition divides the car into two rooms



This train, the Great Northern's "International," operates between Seattle, Wash., and Vancouver, B. C.

En route to the summit of Pikes Peak this Manitou & Pikes Peak train is negotiating a 25 per cent grade



Patrons in Khaki

Expansion of armed forces in the months ahead will mean increased demands for railroad passenger service



"Now, wheeh all dem high heel pumps come f'um?"

Since the beginning of the Korean war, which marked the start of an immediate and large-scale expansion of the armed forces, military demands on the nation's railroads have increased substantially. As defense production gains momentum, these demands will undoubtedly multiply. And there are strong indications that railroad passenger business will pick up, thereby halting the steady decline that has been taking place in this traffic during the past four years.

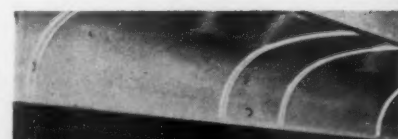
In a speech to the nation on September 1, President Truman recommended as an immediate goal an armed force of close to 3,000,000 men, and he went on to say that "further increases may be required." Together with regular civilian travel, and some shift in workers as defense plants open up, the prospects for an improvement in the passenger situation seem assured. Arranging for this increased travel will no doubt be part of the work of the newly formed government transport agencies, the Military Traffic Service of the Department of Defense, and the Defense Transport Administration, headed by Interstate Commerce Commissioner James K. Knudson.

Problems to Be Considered

Probably one of the first things these agencies will study will be the availability of passenger equipment. Chairman Johnson of the Interstate Commerce Commission, who was director of the former Office of Defense Transportation during World War II, recently told the House interstate and foreign commerce committee that the railroads have 3,233 fewer sleeping cars today than they had in 1943. He also said that seating capacity in coaches has declined 119,000 during the same period. Meanwhile, since the end of the war, the Army has disposed of its own 2,400-odd troop sleeping cars, many of which were sold to railroads for conversion into freight or head-end cars. It is a knowledge of this trend in passenger equipment that is causing concern among Army transportation men who will work with the railroads in planning and expediting troop movements.

There is, however, a brighter side to the picture. Arthur H. Gass, chairman of the Car Service Division of the Association of American Railroads, said recently in discussing the equipment situation that new and retired passenger cars since the war "about offset each other." The principal loss in coach seats has come about, he said, in changing from the old 85-passenger cars to the more modern 60-passenger cars. The new cars added since the war are in top shape, and can be put to hard use if need be, reducing passenger equipment turn-around time to a point even lower than in World War II. There is also the pleasant possibility that new and more comfortable equipment will do a public relations job and create lasting good impressions of the railroads among the troops who ride them.

Mr. Gass went on to recall the situation in World War



U. S. Army Signal
Corps Photo

II, when he headed the A.A.R. Military Transportation Section. In those days, he said, passenger equipment was an "hour-to-hour" problem, with everything depending on the flexibility of the equipment. When things went right they were sometimes able to move four times more troops than "paper railroading" had indicated would be possible.

In any case, judging again by World War II, passenger cars cannot be built in any number in wartime, so it is a problem of making the best of what there is. Along this line, the Army and the Pullman Company have been trying to come to an agreement for putting into service the 325 tourist cars that were placed in "mothballs" at Army installations after the last war. As another space saver it might also be necessary to resume the wartime practice of assigning two service men to lower berths in sleeping cars. Both the Army and Navy did this in World War II, although the Navy did not accept the idea until forced to do so by O.D.T.

Fewer Moves Planned

Another matter receiving attention in Army transportation, and one bearing on the defense passenger situation, is the plan to hold down the number of moves per soldier during training. Given more time for planning than it had in World War II, the Army is apparently examining the possibilities of giving basic and advanced training as much as it can in one spot. This plan might cut down the number of "main" movements—those movements involving 15 men or more — but there would still be

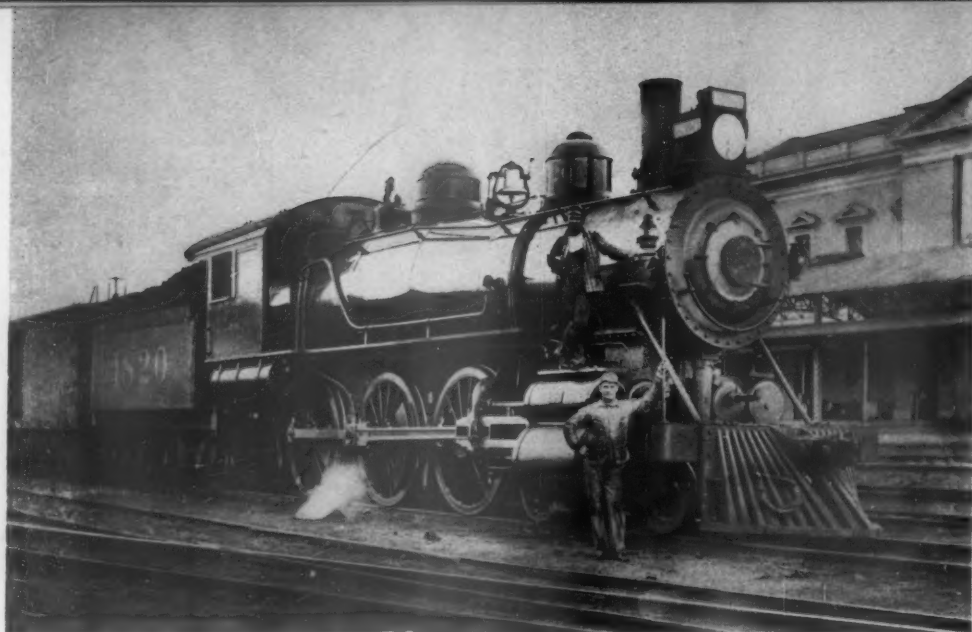
several unavoidable moves per man, and, as Mr. Gass points out, the perennial job to "get the boys home for Christmas."

It is not considered likely that the government will take steps to discourage civilian rail travel, and as long as ample gasoline is available for private automobiles, this element of the passenger business is not expected to become overwhelming.

"Preferential Clause" Reworded

In connection with military traffic, the railroads on September 1 renewed their long-standing travel agreement with the military agencies. This agreement, retaining the so-called "preferential clause," provides fares for military passenger travel that are 10 per cent below regular commercial fares. The preferential clause of the agreement has been somewhat changed from previous years and it now provides that all military traffic shall move by rail "except when the military branches determine that other available commercial transportation agencies can provide more satisfactory service to meet the military requirements of the government." Earlier versions of the agreement had provided that the traffic would go to the railroads unless "military necessity" dictated otherwise.

It was under this travel agreement that the railroads handled about 97 per cent of military passenger traffic during World War II, and have handled about 90 per cent since that time. The air lines have had a similar agreement in effect.



Union Pacific passenger power built in 1900—a 4-6-0 type of compound cylinder arrangement

A New York Central 4-6-4 Class J.1 was one of the best-known examples of modern steam power with high boiler capacity; the four-wheel trailer helped make it possible



Motive Power 1900-1950

Fifty years of development and research in the field of motive power for both passenger and freight service have not changed the objective which designers and builders have sought for — higher horsepower, at the right time and in the right amount. This is a natural objective because it is a requirement whether or not the operating interest of the moment be greater train loads or higher speed. In spite of the fact that economies of operation and performance considerations must, of necessity, be the controlling factors in overall railroad activities, the major changes in the design of motive power have been motivated by the necessity of attaining greater operating speeds and ability to haul heavier and heavier trains at higher speeds.

When one looks back to 1900, in an endeavor to picture the type of motive power that was hauling passenger trains and was being built at that time, it is almost necessary to look a little bit back of the turn of the century to find the reasons for many locomotive developments that were in common use at that time. Locomotive capacity at any given period is the end result of other

considerations than the design of the locomotive itself.

The passenger locomotive of 1900 was not to be compared with later designs because one of its limiting factors had to be axle loading, which at that time seldom exceeded 35,000 to 40,000 lb. Many considerations, such as capacity of track and bridges and the strength of materials within the locomotive itself, dictated this limitation and probably accounted for the fact that most of the passenger power of that time was of the 4-4-0 or the 4-6-0 type.

A Matter of Capacity

Even 50 years ago locomotive designers recognized, as they do today, that horsepower in steam locomotives, above everything else, is a matter of boiler capacity, and the fuel of that period together with boiler structural materials, the limitations of space and of steam pressure all operated to narrow down the size and the capacity of a boiler. The need for increased grate area and the use of anthracite coal accounted for the wide fireboxes that

spread out over the rear driving wheels of locomotives in 1900. Incidentally, the widening of the fireboxes of hard-coal power served to increase the difficulties of cab location and brought into being the "Mother Hubbard" type of locomotive, which for safety reasons ceased to be built in the early years of the century and persists only in rare instances today.

Back around 1880 began the major developments in the search for greater horsepower within the limitations existing at that time. By the beginning of this century there were approximately 1,900 locomotives of the compound type, mostly four cylinder compounds, that served to show the greater possibilities of the more efficient use of steam pressure and volume but also served to show railroad men the difficulties of adding to the complexities of design from the standpoint of maintenance. That succeeding generations do not always profit by experience was evidenced by the three-cylinder designs of 1925 to 1930.

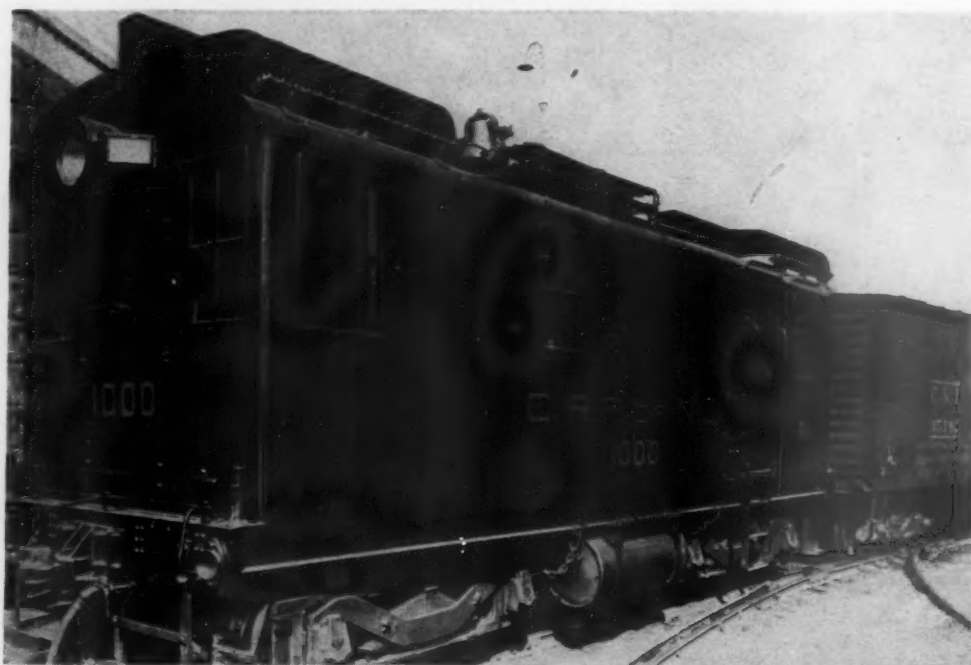
The Diesel-electric Introduced

The year 1925 was more than the midway point in this 50 years of locomotive progress. By that time, most of the real developments such as the superheater, the feedwater heater, the power reverse gear and the entire parade of devices of refinement designed to increase capacity and hold down the cost of operation had come into being—one year later came the four-wheel trailer

truck which proved to be one of the greatest contributions to increased boiler capacity and high horsepower.

Just at this time a most important development took place; the first commercially practical Diesel-electric locomotive came on the scene to serve as the forerunner of the next major motive-power era. It took eight years—and a lot of experience with the rail motor car—to bring the internal combustion engine and the electric transmission to the point where builders were willing to try the combination in passenger service. In 1935, however, with the refinement of the Diesel engine, this type of power really began its inroads in the field of passenger service. Many were its advantages—such as low operating cost, high acceleration, high availability and the fact that it could be operated over many thousands of miles of road without cutting it out for servicing and maintenance. In the 17 years since Diesel power entered the railroad picture it has reached a point where it now dominates passenger service. The statistics of passenger service demonstrate this fact; current figures show that over 50 per cent of all the passenger locomotive-miles are Diesel-powered miles and that almost 60 per cent of the passenger-train car-miles are in trains with Diesel power at the head end.

Such is the trend of progress in a half century. Design, materials, specialties, types of prime movers and types of transmission have all undergone marked changes. The search for greater horsepower within the limitations of space will pass on into the last half of the century.



The first commercial Diesel-electric; a switcher with a 300-hp. six-cylinder Diesel engine. This was built in 1925

Today's passenger power is predominantly Diesel-electric with up to 6,000 horsepower in multiple units and capable of long-run high speed operation





Railroad Passenger

Present-day structures are in sharp contrast with those of a half-century ago—Functional lines on the exterior and more attractive, comfortable and convenient interiors are outstanding differences

Left—A typical railway station of 1900 was this structure of the Kansas City, Pittsburg & Gulf (now the Kansas City Southern) on the south bank of the Missouri river at Second and Wyandotte streets, Kansas City, Mo. Below—A representative example of modern railroad stations is the union depot that was recently constructed at Akron, Ohio. Bottom—Exemplifying many of the features found in modern stations is this facility of the Chicago, Burlington & Quincy at Burlington, Iowa.



Stations Keep Pace with Equipment

Railroad passengers are most likely to measure the progress in railroad passenger-handling facilities since 1900 in terms of the advances that have been made in cars and locomotives. It is true that spectacular developments have occurred in passenger-train equipment, but these are no more spectacular than those that have taken place in the design, construction and appearance of railroad passenger stations.

If the public seldom gets worked up to the same pitch of interest and excitement in its attitude towards new or modernized passenger stations as it has manifested regarding new types of passenger equipment, this perhaps has been because the railroads themselves have not, as a rule, shown the same zeal in publicizing passenger-station developments as they have in introducing new trains. While it is a fact that patrons spend much more time riding trains than they do waiting in stations, it is worth pointing out that, for each train ride, they use at least two stations and see others, sometimes many others, during the course of the trip. In recent years the railroads have spent large sums on their passenger stations but relatively little in bringing these achievements to the attention of the public. However, there is a dramatic story to be told of railroad contributions to civic improvement, and to the better accommodation of travelers, through these undertakings.

As one way of getting into this story let's take a look at the typical railroad passenger station as it appeared in 1900.

With occasional exceptions these stations all had one thing in common—an unattractive appearance as compared with present-day standards. Whether built of

stone, brick or wood they seem to us today to have been consistently drab and unprepossessing to look at. Common features of the exterior were wide overhanging eaves, towers or other ornamental protuberances without functional purposes, small windows and much "gingerbread"—the latter being characteristic of the architectural style of that day.

Like the exterior, the interior of the typical station of 1900 was apt to have a dark and gloomy aspect, attributable to the small windows, dark-stained trim, inadequate artificial lighting, and the absence of bright colors. Dealings between the ticket agent and patrons usually were conducted through a rather small grilled opening that prevented the ticket-buying procedure from being anything but an impersonal transaction. A common feature was the smoking room—reserved for males—in which could usually be found an aggregation of local townspeople with time on their hands. Another standard fixture was the wood settee with its metal arm rests.

There were other interior characteristics that were typical of most of the passenger stations of 1900. One was the beaded tongue-and-groove material so widely used for the walls and ceilings. Bare wood floors were also the rule, and frequently these were deeply worn at places of heavy travel, as at doorways, in front of the ticket windows, and on stairways. The pot-bellied stove, with its uneven heat distribution, was an accepted feature of nearly every waiting room.

The passenger station of 1900 had many other characteristics that could be compared unfavorably with those of present-day structures. Some will be evident from a study of the accompanying pictures. However, in



These two views tell better than words the improvements that have been made in passenger station interiors in the past 50 years. At the left is the waiting room of an old station



on a western line, which has since been remodeled. At the right is the inviting waiting room of the new Burlington station at LaCrosse, Wis.



An example of how the modern railway station differs in appearance from that of 50 years ago (left and opposite page). These pictures show the station of the Atchison, Topeka & Santa Fe at Topeka, Kan., before and after modernization about a year ago



Fifty years of progress in station design are graphically illustrated by the contrast between an old station on a western road, and (below) a station recently built on the Chicago, Rock Island & Pacific at Duncan, Okla.



justice to the railroad architects and engineers of that period, it must be said that, from an architectural standpoint, their creations were in step with the times. It should be noted, too, that they had only a limited selection of building and finishing materials to work with, compared with the number and variety of such materials that are available today.

Specifically, how and in what respect does the railroad passenger station of 1950 differ from its predecessor of 50 years ago? In the first place there has occurred a revolutionary change in the overall appearance of railroad stations due to the universal trend toward a simplified form of architecture which minimizes ornamentation and ostentatiousness and emphasizes particular features based on their functions. For example, the street side of the present-day station is apt to be rather simple in appearance except that, by means of various architectural devices, the main entrance is generally so treated that it becomes the dominating feature.

New Materials Have Helped

An important factor in bringing about such changes in the external appearance of passenger stations has been the use of new types of building materials. Some of the products that have figured prominently in this phase of station design are stainless steel, aluminum, structural glass, glass blocks, and asbestos-cement shingles and siding. At the same time the use of timber-frame construction has been practically discontinued for anything but the smaller stations.

Changes that have taken place in station interiors are no less than revolutionary. These have involved not only the appearance but the nature and arrangement of the facilities and appointments. Here again it is the use of new types of finishing materials, frequently in combination with existing types, that has been largely responsible for the improved appearance. A wide variety of composition materials are available for use on walls and wainscots, with emphasis being placed on products with hard, easy-to-clean surfaces. Special tiles, some with acoustical properties, have largely replaced plaster on



ceilings, while asphalt and rubber tile have become popular for use on floors, although terrazzo and similar types of flooring are still widely used. The extensive use of fluorescent lighting and larger windows, together with illuminated photo-murals, are other important features that have helped greatly to give station interiors a brighter, more cheerful appearance.

Interiors Better Arranged

Station interiors are less complicated than formerly, with the result that it is much easier for patrons to find their way about, especially in getting to and from trains. No longer does the passenger have to hunt for the ticket window; he usually finds it in a direct line between the main entrance and the train concourse. Also, ticket-buying transactions are now usually conducted across an open counter, with the result that the passenger is more likely to feel that he is doing business with people rather than an impersonal corporation. Other conveniences, such as parcel lockers, telephones, and news-stands, are placed within easy reach of the traveler. No longer is a separate smoking room provided, although an additional facility that is almost indispensable to the modern station is a powder room or lounge for woman patrons.

Waiting-room furnishings in the present-day passenger station are also radically different from those of 50 years ago. To a great extent the old-fashioned wood settee has disappeared in favor of more comfortable and attractive furnishings, frequently upholstered in colorful imitation leather. In some of the larger stations special lounges, attractively furnished in a home-like manner, complete with carpeting, drapes and floor lamps, have been provided for the comfort of women patrons.

In this brief review it has been possible to mention only some of the more important improvements that have been made in passenger stations during the past 50 years. Those mentioned, and many others, have combined to produce facilities that are, in every way, a fitting counterpart of the latest in streamline passenger equipment.



Changes in ticket windows and other features of waiting-room interiors are revealed by these views which show (above) a portion of the waiting room of an old station typical of those of 50 years ago, and (below) the open ticket counter in the Santa Fe's remodeled Topeka station





Above—Since 1900, automatic block signaling has been installed on more than 100,000 miles of track. Right—Cab signaling and train control are now in service on 21,500 miles of track



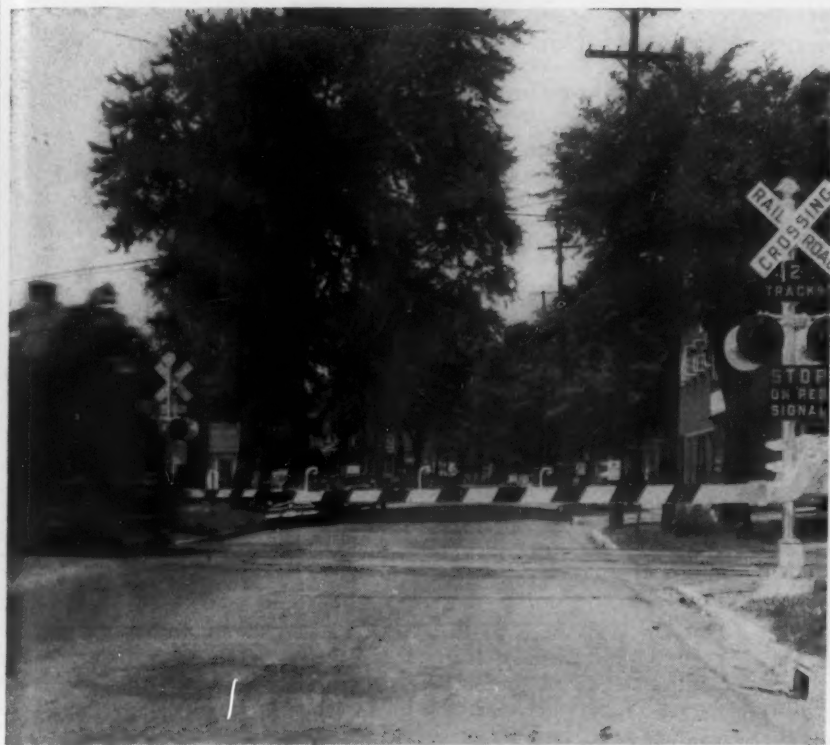
Safety Improved, Train Time Saved, By Modern Signaling

Starting with a few interlockings and small mileage of automatic block signaling in service in 1900, the railroads have installed in the past half-century thousands of interlockings and 110,000 miles of automatics; developed and installed new systems of train control, cab signaling and centralized traffic control; and put in entirely new systems of flashing-light signals and automatically controlled gates to improve safety at highway-railroad crossings

Improved safety and savings in train time are only two of the benefits to passenger train service which have been brought about by signaling developments during the first half of this century.

Today, automatic block signaling, which warns engineers of trains ahead, is in service on more than 110,000 miles of track in the United States and Canada. Earliest statistics available—1908—indicate that fewer than 19,000 miles were equipped with automatic block at that time. Thus through the years which followed the railroads continued to improve safety of passenger train operations by extending automatic block signaling on an average of more than 2,400 track-miles annually. As a result, most of the important lines over which passenger trains operate are now protected by automatic block signaling.

In addition to wayside automatic signals, some roads—on sections where passenger trains are operated at speeds over 80 m.p.h.—have installed additional protection in the form of cab signaling, train stop or train control—all of which were only a dream in 1900. These dreams, however, were turned into realities by the railroads and the manufacturers so that today these additional forms of protection are in service on 21,500 track-miles of fast passenger lines, and such projects are now under construction, authorized, or being planned on some 5,000 additional miles. In cab signaling territories the aspects of wayside signals are repeated on small signals in the cabs of the locomotives; if an engineer passes a signal displaying a restrictive aspect, the cab signal aspect changes and a whistle blows loudly. In train stop territory, the brakes are applied automatically to stop his train if the engineer fails to acknowledge a restrictive aspect on a wayside signal. In addition, train control includes speed control to apply the brakes if a train goes too fast any-



Above—Centralized traffic control, a new idea in the 1920's, has minimized delays in sidings on single track lines. Left—The flashing-light crossing signal and the automatic gate were developed by the railroads to improve safety at crossings

where, or faster than allowed in response to certain aspects.

Another new signal system, which not only improves safety but also saves a lot of train time, was developed in the 1920's, and is now known as centralized traffic control. In such an installation—which may extend for a few miles or for an entire division of up to 200 miles or more—the switches at sidings, junctions and crossovers are equipped with power machines. For an entire division these machines and signals at these switches may be controlled remotely from one central office. Train movements are authorized by aspects displayed by the signals at the switches, thus dispensing with train orders.

Safety is improved with this method of operation, and time lost in waiting on sidings is materially cut, to the satisfaction of passengers. By reducing standing delays, these C.T.C. projects are important in shortening overall long-distance passenger train schedules, while at the same time a trip can be more enjoyable because maximum speeds can be lower. The railroads in the past 20 years have made a total of 426 such installations, covering 12,357 miles of track, and including 5,563 power switch machines.

During recent years signal engineers have improved signals to save train time by providing additional aspects which permit trains to continue at the highest speed permissible with safety, rather than stopping or operating at very low speed when there is no occasion for such delay.

For example, when nearing an interlocking home signal or a siding in centralized traffic control territory, a fourth aspect, Approach-Medium, on the distant signal, directs an engineman to operate his train up to and through the turnout to a siding at the best speed for

which that turnout is designed. Previously, with only three aspects on the distant signal, if the diverging route was lined up, the best aspect on the distant signal was Approach, which according to rule requires the engineman to reduce speed at once and approach the home signal prepared to stop. Thus the additional fourth aspect saves a few minutes here and there, and gets the passengers to their destinations sooner.

Modern signaling also has done much to improve safety at railroad-highway grade crossings. Back in the horse-and-buggy days of 1900, the horses could hear a train coming and stay off the track. Now "horse-sense" is lacking on the highways. In the past 40 years, a network of improved roads has been built across railroad tracks everywhere, many of them carrying continuous streams of private automobiles, buses, trucks and "box car" trailers. The problem of protecting roadway vehicles at highway-railroad crossings, however, was dumped in the lap of the railroads.

To meet this situation the Signal Section of the Association of American Railroads developed the standard flashing-light signal which—when flashing red—is recognized by every school boy as a warning that a train is approaching. The railroads have spent millions of dollars installing this protection at more than 16,000 crossings. Small boys and most sane vehicle drivers observe and are governed safely by these signals. Occasional overtired or reckless truck drivers, or "smart" youths in new convertibles, race the trains for crossings, and not infrequently they actually run into the sides of trains. In a further effort to save lives endangered by these reckless persons, the railroads are now "going another mile" in adding automatically controlled gates at thousands more crossings of main highways.

From Morse to Microwaves

Modern railway communication facilities play a big part in keeping passenger trains moving and customers satisfied

Morse-to-Microwaves covers a lot of ground in railway communications in the past 50 years, although strides forward in this field have been particularly significant following the development of modern communications equipment and techniques during and since World War II. From the simple telephones and Morse telegraph keys and sounders in use at the turn of the century, railroad communication networks have grown and fanned out to include just about every available facility in the wire-line, electronic and radio fields which, in turn, have assisted substantially in enabling the railroads to provide the best in service and conveniences to passengers.

The day of the station announcer yelling through a megaphone (without much effect in far-off corners and platforms) is passing. Modern loudspeaker and public address systems have been introduced at large stations, over which announcements can be made quickly and clearly from a central point as to train departures and arrivals, and over which music can be played for the entertainment of patrons awaiting trains. Automatic electrical transcriber equipment or printing telegraph machines in operation between interlocking towers and train announcers in stations enables train directors in the towers to inform announcers, porters and other employees in the station as to what tracks trains will arrive on.

Public Address Systems

Numerous roads — such as the Atchison, Topeka & Santa Fe, the Chicago, Burlington & Quincy, and Denver & Rio Grande Western — have installed extensive recorded music and radio entertainment equipment, as well as telephone equipment for communication between various parts of trains, and public address systems for dining car and other train announcements. As an additional convenience, some roads, including the New York Central, the Southern Pacific, the Baltimore & Ohio, the New York, New Haven & Hartford, and the Pennsylvania, in collaboration with commercial telephone companies, have provided public telephone service on their passenger trains. Telephone conversations are handled by radio between the trains and radio land stations of the telephone companies, and enable passengers to make and receive calls between the trains and their homes, offices and elsewhere.

Radio for communication between trains and between trains and land stations, while its use in both passenger service and freight operations has been more widespread following World War II, is, however, not new — some of the first experiments thereon were carried out early in the century on the Delaware, Lackawanna & Western and on the Canadian National.

Two manufacturers—the International Telephone & Telegraph Corp., and the Union Switch & Signal Co.—in the last couple of years have introduced central train-space and Pullman reservation-bureau equipment for recording and reporting information to agents in out-

lying ticket offices concerning accommodations which are available, and those which have already been sold. The I. T. & T. and Union systems, known as Intelix and Infomat, respectively, reduce the human element to a minimum, handle requests for space in a matter of seconds, and obviate the necessity of agents having to contact reservation clerks for the desired information. Conventional telephone traffic is thus reduced to only that required for confirmations, and considerably faster service is afforded the railroads' passenger patrons. (An installation of the Infomat system now in service on the Pennsylvania at Cleveland, Ohio, was described in the September 9 *Railway Age*.)

Printing Telegraph Much Used

Many roads, such as the Union Pacific, the Baltimore & Ohio, the Western Pacific and others have adopted printing telegraph on a big scale in recent years. Included in the large amount of general message traffic handled over these facilities, which have improved, expedited and facilitated railroad communications in general, are messages pertinent to reservations, tickets, connections at distant points and other passenger matters. Numerous roads — such as the Chicago, Rock Island & Pacific, the Illinois Central, the Louisville & Nashville, the Missouri Pacific, the Atlantic Coast Line and others — have, or are also installing, dial-automatic telephone service between offices in distant cities, to replace service through manual switchboards.

About the latest development of current interest and importance in the railway communications field has been the Rock Island's and Santa Fe's adoption of microwaves or beamed radio for transmission of their telegraph and telephone communications between distant cities in lieu of wires on pole lines. The Rock Island project, which was outlined in the October 7 *Railway Age*, and will be described in more detail in the November issue of *Railway Signaling and Communications*, is in service and undergoing final tests between Norton, Kan., and Goodland, 106 miles. Briefly, the system, which is similar to recent large-scale microwave installations in this country of the Bell Telephone System and Western Union Telegraph Company for handling commercial communications, employs many principles of radar and super-high-frequency waves for transmission or beaming of communications between Norton and Goodland. In that the pole line between these points is subject to severe damage annually from wind, snow, ice, sleet and dust storms, resulting in interruptions to communications, it is expected that the beamed radio system will eliminate considerable trouble, and keep message traffic flowing.

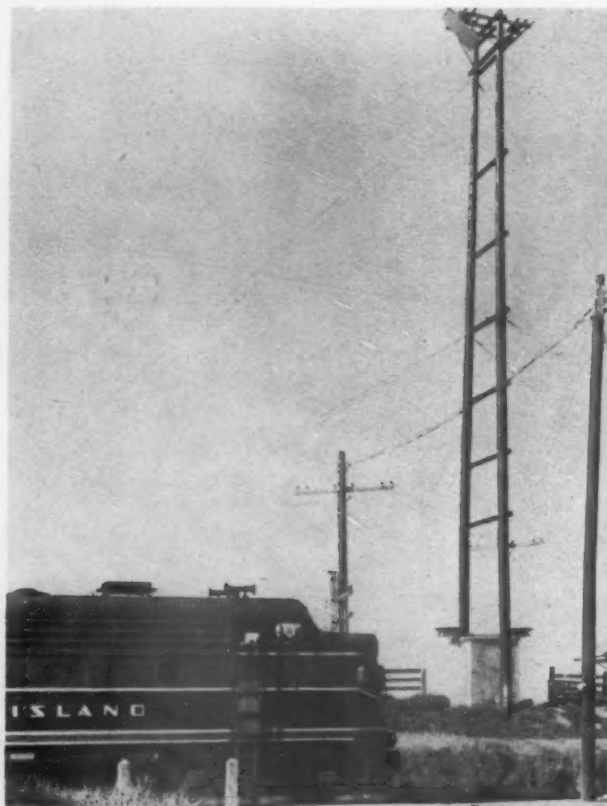
The Santa Fe's microwave project is now in progress between Galveston, Tex., and Beaumont, 70 air-line miles. A new era in railway communications, microwaves—a long stretch from the facilities available at the turn of the century—has thus commenced.



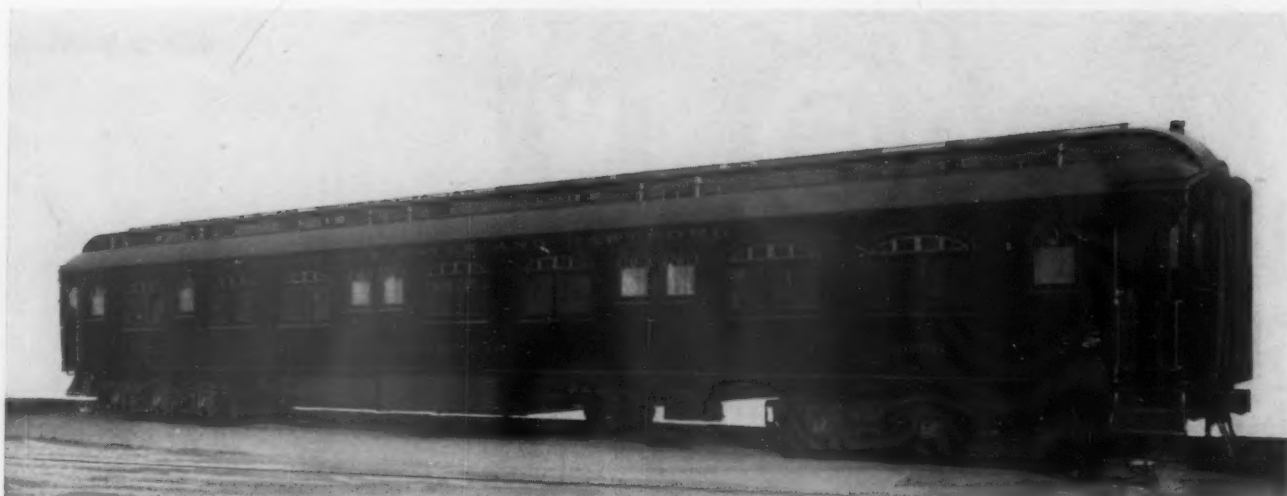
The Canadian Pacific telegraph office at Windsor, Ont., has typical modern printing telegraph equipment



Left—Typical Infomat machine in a Pennsylvania ticket office in Cleveland, Ohio. It is connected to a larger recording machine at the central train-space reservation bureau in Cleveland, which has receptacles corresponding with months, days, destinations, trains for the next 90 days, and 15 classes of accommodations, and can furnish agents with any desired space information in a few seconds. Here the agent is select-

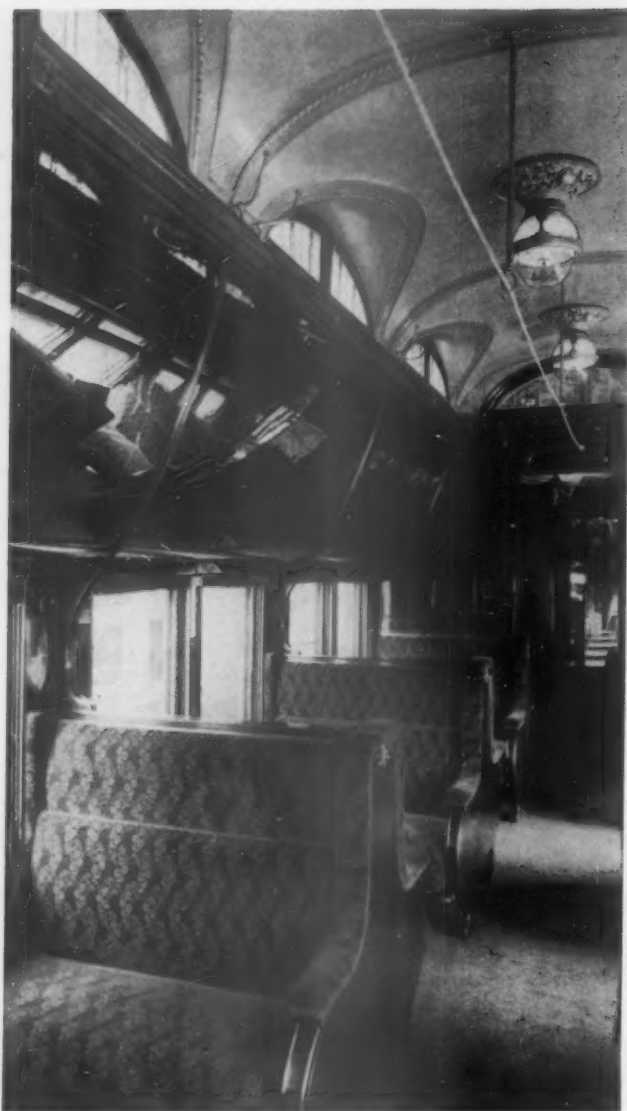


ing the destination named by his customer. Right—Telephone and telegraph communications on the Rock Island between Norton, Kan., and Goodland are beamed for 106 miles by super-high-frequency microwave radio waves between 100-ft. towers such as that shown here. A similar installation is now in progress on the Santa Fe between Galveston, Tex., and Beaumont, 70 air-line miles



Above—Pullman sleeping car—vintage of 1910. Below—Ornate interior of a sleeper built in 1905

Fifty Years of Pullman



When the 20th Century began, the Pullman car was exactly 41 years old, having germinated in the brain of George M. Pullman in 1859. True, there had been sleeping cars on the railroads for a considerable period earlier, but that date marked the origin of the improved design which made for equal comfort and convenience "made down" for the night or "made up" for day. After experimenting with his "folly" on the Chicago & Alton (now part of the Gulf, Mobile & Ohio) and Galena & Chicago Union (now part of the Chicago & North Western), Pullman felt so confident in his rightness that he had the temerity to ask for his "Pioneer" the sum of \$18,000, compared with the \$4,000 charged for ordinary cars of the day, and to design a car of such generous proportions that certain roads had to modify line clearance restrictions before they could use them. But the public clamored for the new comforts—and the obstacles were removed.

In 1900 the public was still clamoring for Pullman comfort. From his great shops in the model city which he had built in the Roseland section of Chicago, starting in 1880, Pullman was producing most of the luxury cars for the railroads for the simple reason that, except for the parlor and sleeping cars operated individually by railroads themselves, he had just achieved a monopoly of integrated, nationwide sleeping car operation. On the last day of 1899, the name Pullman's Palace Car Company was dropped in favor of the present title—the Pullman Company. Several days later, Pullman took over the cars and contracts of its last effective competitor, the Wagner Palace Car Company.

Integrated Service in 1900

Hence the 20th Century ushered in the pattern of standard sleeping car and luxury service which was to prevail up to our times. At the close of 1900, Pullman had 3,006 cars in service (including dining cars). In contrast the individual railroads were operating 393 sleeping cars and 499 parlor cars. The principal roads operating their own sleeping cars were the Canadian



Ornate Pullman parlor car interior favored in the early 1900's



The electrically lighted observation - club car proved a popular place when the "North Coast Limited" was placed in service in 1900

Pacific; Central of Georgia; Chicago, Milwaukee & St. Paul; Great Northern; and New York, New Haven & Hartford. The Queen & Crescent Route (now Southern) still operated certain car lines under a contract with the old Mann company.

Sleeping cars operated by individual roads in the United States reached a peak of 764 in 1916, after which the number declined steadily to a negligible proportion of the whole. Individually operated parlor cars reached a peak of 703 in 1911. In contrast, dining cars operated by Pullman declined in proportion to railroad-operated equipment.

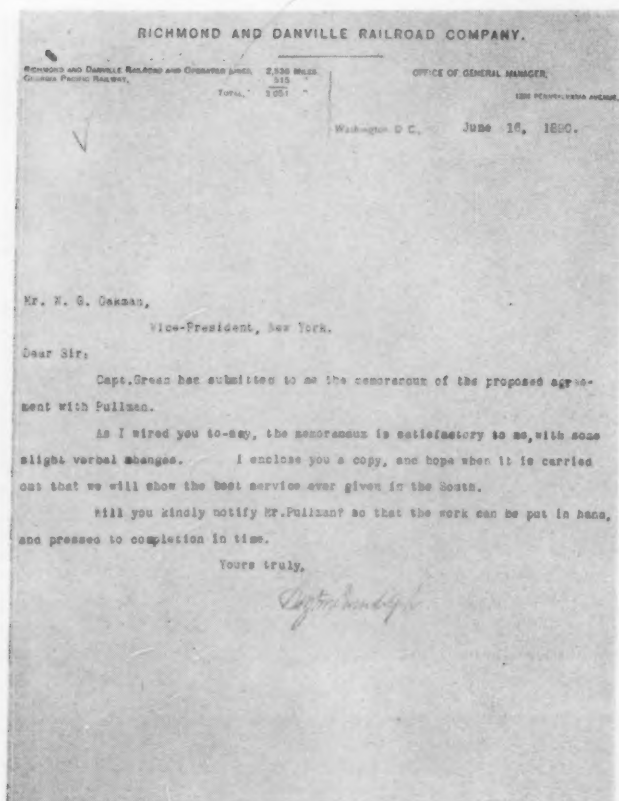
In 1924, the Pullman Company sold its manufacturing properties to the Pullman Car & Manufacturing Co., though it retained control of the combined enterprises through Pullman, Inc., formed in 1927. On June 30, 1947, following years of litigation by which the U. S. Department of Justice succeeded in forcing Pullman to

divorce its manufacturing and operating interests, Pullman, Inc., sold the sleeping car operation to a group of 57 railroads. Under its old name but new ownership, the Pullman Company continues to render a nationwide sleeping car service.

A comparison between 1900 and the present shows clearly that, despite the mushrooming of severe competition—including the railroads' own coach service—Pullman operations are immensely more important now than at the turn of the century. Furthermore, in relation to the railroads' own traffic and equipment, Pullman plays a much larger role now than in 1900:

	1900	1950
Cars owned and leased	3,006	5,838
No. of employees	9,308	22,286
Miles traveled	274,066,488	842,208,041
Passengers carried	7,164,000	16,021,646 ('49)

From the standpoint of mechanical design, progress in Pullman equipment has been phenomenal. Even be-



When carried out, this Pullman contract of 1890 would "show the best service ever given in the South," in the hope of the general manager of the Richmond & Danville (now Southern). Much is implied in this short piece of correspondence relating to the equipping by Pullman of the new "Washington & Southwestern Vestibuled Limited" between New York and New Orleans

fore the turn of the century, Pullman introduced the first vestibule-type car. The all-steel car—with its great contribution to safety—followed soon after, an experimental unit being built in 1907 and a type adopted for general service in 1910. It was at this time that interior decorative treatments became less ostentatious, in contrast with the mahogany finish, extreme ornamentation and rich upholstery of the wood cars of the Victorian period.

By 1917 the Pullman car contained innumerable hidden mechanisms, concealed devices, and ingenious electrical accessories installed for the comfort of the 20th Century traveler. A single Pullman car contained at that time nearly a mile of insulated copper wire; over half a mile of pipes and conduits; a maze of batteries, switches, 4 kw. electric generator, ventilators, controls, etc. Today the car's complexity is even more spectacular. The average sleeping car of 1950 has a 25-kw. generator, over 52,000 ft., or ten miles, of wiring, and over 4,000 ft. of piping. By way of comparison, the average five-room house utilizes only about 5 kw. of electric power, 1,200 ft. of insulated wire and 200 ft. of pipe.

Air-Conditioning

The first air-conditioned Pullman sleeping car was put in service between Chicago and Los Angeles on September 9, 1929, with an ice-cooled system, manually controlled. This car was the forerunner of today's 6,000 air-conditioned Pullman cars and is reputed to be the first successfully operated fully air-conditioned car of any kind operated on any railroad.

Another milestone in Pullman progress was the first all-aluminum Pullman car exhibited at the Century of Progress exhibition in Chicago in 1933-34. This car was designed to provide strength and safety equal to that of steel construction at a saving of practically 50 per cent in weight. It included air conditioning, indirect lighting, modified streamlining and ingenious interior decorations.

The year 1934 witnessed development of Pullman bedrooms en suite for the convenience of several people traveling together. In this arrangement, connecting bedrooms have a sliding or folding partition between them which can be opened to afford the convenience of one large room. In 1935 the Union Pacific introduced the first streamliner containing sleeping cars.

The year 1937 saw the introduction of the new compartment which afforded additional comfort space, extra long beds and all modern conveniences. The drawing room developed at about the same time comprised an efficient rearrangement to give commodious space for daytime occupancy and three large beds for night occupancy.

One of the most recent and successful car types, introduced by Pullman after an extended period of the most intensive test and development, is the duplex-roomette, first built in 1942 and having rooms on two slightly varying floor levels which interlock and make available 24 individual luxury accommodations in a single car. The roomy bed in the lower duplex slides under the floor of the adjacent room, which is two steps above aisle level. In the upper roomette, the bed swings up into the wall. The duplexes become private sitting rooms in daytime, contain their own lavatory and toilet, and heat, light and air conditioning are designed for the individual's personal control.

Since 1942, numerous refinements in design have been effected which, in the aggregate, contribute much to passenger satisfaction. Among these may be mentioned the toilet annex provided in bedrooms and compartments; the cut-out roomette bed which enables the occupant to raise or lower the bed without opening the room door; fluorescent lights for individual requirements; improved heating and cooling controls; circulating ice water to all compartments; radio and recorded music and public address systems.

One feature not to be overlooked is the improvement in riding properties of Pullman cars as a result of scientific development of the modern fully sprung four-wheel truck with all shocks well cushioned and harmonic vibrations damped. Some cars are being equipped with disk-type brakes. Seats, cushions and mattresses of modern design, generally made of sponge rubber and easily conforming to the human anatomy, supplement easy-riding trucks to give a maximum of riding comfort in Pullman equipment of today.

A WORD ABOUT THE MORE DISTANT FUTURE

"One of the things we know about traffic men is that they are always looking ahead, that they want to know what is going to happen as it affects their business not only tomorrow and the next day but also five and 10 years beyond. I might say much more about it, but let me say just this: I expect to be around for a good many years to come, as most of you do too, and I foresee neither in my time nor in any time after that any lessening of the importance of the railroads in American life; or of their ability to measure up to what is needed and expected of them." — Wayne A. Johnston, president, Illinois Central, before the Birmingham (Ala.) Traffic & Transportation Club.

GENERAL NEWS

Pan-American Railway Congress to Meet in Washington, D. C., in 1953

Faricy extends invitation on behalf of U. S. government; sessions will be timed to coincide with Atlantic City conventions of A.A.R. Mechanical and P.&S. Divisions

The Pan-American Railway Congress Association, meeting in Mexico City on October 10-20, voted to hold its next meeting in 1953 in Washington, D. C. The vote came in response to an invitation tendered to the association on behalf of the United States government by William T. Faricy, president of the Association of American Railroads, who is chairman of the commission representing the U. S. government in the Pan-American Railway Congress Association, and who headed the official U. S. delegation to the seventh session of the congress in Mexico City.

To Promote Understanding

Formal United States government affiliation with the Pan-American Railway Congress Association is, frankly, a part of the government's policy toward better acquaintance and more cordial relations among the nations of the Western hemisphere—and the U. S. delegation to the seventh meeting of the association in Mexico City proceeded actively to give effect to this policy—both by submitting for the consideration of the congress scores of papers and reports embodying a wide variety of railroad "know-how," and by enlarging and deepening their acquaintance among more than 135 delegates—who, with one or two exceptions, represented all of the nations in the Western hemisphere. Also represented were the United Nations and the Organization of the American States (formerly Pan-American Union).

In extending the invitation to hold the eighth meeting of the congress in the United States, Mr. Faricy emphasized the likelihood that in that year there would be meetings of the Mechanical and Purchases & Stores Divisions of the A.A.R. in Atlantic City, N. J., with an exhibition of equipment and new devices, and the intention is to time the meeting of the Pan-American Congress so that members may make a visit to the exhibition at Atlantic City an integral part of the congress program.

In attendance from the United States at the Mexico City meeting were the following members of the official U. S. delegation in addition to Chair-

man Faricy: Dr. George P. Baker, professor of transportation, Harvard Business School; J. M. Hood, president of the American Short Line Railroad Association; Arlon E. Lyon, executive secretary of the Railway Labor Executives' Association; and the editor of this paper. Members of the U. S. commission's industrial advisory committee who were in attendance included Nelson C. Dezendorf, director of sales, Electro-Motive Division, General Motors Corporation; Charles Kerr, Jr., consulting transportation engineer, Westinghouse Electric Corporation; and Max Ruppert, president of the P. & M. Co. Donald V. Fraser, president of the Missouri-Kansas-Texas, and F. L. Cring, assistant general passenger agent, M.K.T., attended the sessions during the first week.

Government Well Represented

From the government service, those present at the Congress included W. S. Abernathy of the Department of Commerce, secretary of the U. S. delegation; Kenneth N. Hynes, of the State Department (who is the resident contact man for the U. S. Commission with the staff of the Pan-American Railway Congress Association in Buenos Aires); H. H. Kelly, chief of the transport

policy staff in the State Department; Major R. P. Alexander, Railway Transport Division, Office of Chief of Transportation; and several members of the United States embassy staff in Mexico City. Besides President Faricy, the A.A.R. was represented by Gerald M. Magee, research engineer; Albert R. Beatty, assistant vice-president (public relations); Lloyd Kiernan, director of special services; and Peter Blackwell, secretary to Mr. Faricy.

A number of prominent representatives of the railway supply fraternity, in addition to those already named, were in attendance, including Cyrus Hankins, president, Wine Railway Appliance Company; Curtis G. Green, Chicago district manager, Baldwin Locomotive Works; George C. Hannaway, vice-president, Moss Tie Company; D. C. Buell, director of the Railway Educational Service; Santiago T. Mendez, of Washington, D. C.; S. Jory, of the Westinghouse Air Brake Company; Robert Walsh of American Car & Foundry Co.; W. N. Britts of G.M.'s Electromotive Division; and local representatives in Mexico of the principal United States railroads and equipment and supply companies. Professor Julian Duncan of the University of New Mexico also attended some of the sessions as did Ambassador Thurston.

How the Congress Works

The way the congress works is as follows: a half-dozen "sections" are organized, each specializing in some department of railway work—way and structures, material handling, mechani-



W. T. FARICY addressing the opening meeting of the Congress

cal, operating, accounting and so on. The papers and reports submitted from the different countries are divided among these "sections" according to subject, with each paper having appended to it a short appraisal and summary prepared by a "reporter" (in most cases, at this particular convention, a Mexican). Each section has a chairman and a secretary, and the papers assigned to each section are discussed there and recommendations made by voice vote as to disposition—whether the report should be printed in the proceedings, or simply summarized therein, or placed in the archives.

The sections met every day from 9 or 10 a. m. until 1 p. m. or later. Then, from 5 to 8 p. m. each day, a "plenary session" was held at which the secretary of each "section" reported its recommendations or the papers it had discussed—whether to print or not to print.

Thus, the convention was in actual session at least six hours daily—and the discussion, particularly in the "sections," was often quite animated and to the point. The difference in language, of course, presented some difficulties—considerably mitigated, however, by a staff of competent interpreters, one of whom was assigned to each "section." Everything said in English was summarized immediately in Spanish by these interpreters, and vice versa.

All technical papers considered by the congress to be important will be published in the official proceedings of the congress—with translation into English of papers submitted in Spanish.

In addition to the regular prize, consisting of a medal and a certificate offered by the congress for the best paper presented at the session, Transport Minister Castro of Argentina provided first, second and third prizes (equivalent in U.S. currency to \$1,700, \$1,000 and \$700, respectively) for papers judged to be the best by the several sections.

Many Social Events

Despite a heavy program of business sessions, a great many social events were programmed—and the interpreters were available there too, facilitating the "get-acquainted" process between the English-speaking, Spanish-speaking and Portuguese-speaking delegates. The delegates were received by President Aleman of Mexico and were entertained at a banquet and on sightseeing excursions by their Mexican hosts. President B. S. Sines of the Southern Pacific of Mexico gave a dinner for the United States delegation, and the U.S. delegation was host on one occasion to the entire congress—as were the Electro-Motive Division of General Motors and the Cuban and Argentinian delegations.

If an editorial expression may be permitted a reporter—this was a hard-working convention which laid the ground-work for a mutually profitable interchange between railroad men of

the Western hemisphere; and which also performed a service of potentially great down-to-earth importance to the advancement of the U. S. "good neighbor" policy. The active and tireless participation in this work by such railroad leaders as Messrs. Faricy and Hood in this endeavor has given the government's policy of friendship to its neighbors a reality and a practicality which could never be achieved by government officials acting alone, however wisely and energetically.

Wood Preservation Down Slightly in 1949

Only three classes of material register increases during year

The total quantity of wood given preservative and fire-retardant treatment in 1949 was 290,555,934 cu. ft. This represents a decrease of less than 1 per cent from the 292,357,303 cu. ft. treated in 1948, and is only 20 per cent under the record high—363,009,027 cu. ft.—established in 1929. To treat this quantity of wood in 1949 the wood-preserving industry consumed a total of 237,699,984 gal. of liquid preservatives, and 7,801,163 lb. of solid preservatives. These figures indicate an increase in consumption of liquid preservatives of about 1 per cent, and a decrease of 26 per cent in consumption of solid preservatives, according to the annual compilation of wood-preservation statistics assembled by Henry B. Steer, of the Forest Service, United States Department of Agriculture, in cooperation with the American Wood Preservers' Association.

Crossties continued to be the largest class of material given preservative treatment, the total of 40,025,189 ties being only about 3 per cent less than the number treated in 1948. As was the case in 1948, approximately 66 per cent of all crossties reported were treated with creosote or creosote-coal-tar solution, and about 34 per cent with creosote-petroleum solution. The remaining 40,930, or less than 1 per cent, were treated with other miscellaneous preservatives.

Switch ties given treatment in 1949 totaled 130,353,984 ft. b.m. Parallel-ling the treatment of crossties, about

64 per cent were treated with creosote or creosote-coal-tar solution, about 36 per cent with creosote-petroleum solution, and 1 per cent or less with other preservatives.

Three classes of material registered increases over their previous years' total. The largest increase—almost 15 per cent—was registered by construction timbers, of which 77,307,118 ft. b.m. were treated. The next largest increase was in poles, of which 6,031,746 were treated in 1949, or about 9 per cent more than 1948. The smallest increase—almost 3 per cent—occurred in the pile category, with 16,255,824 lin. ft. given preservative treatment during 1949.

The increase in number of poles given preservative treatment in 1949 reversed the short-lived downward trend begun in 1948, but was not enough to equal either the high of 1947 or the number treated in 1946. However, with the volume of crossties being treated decreasing and the number of poles treated increasing, poles again threaten the first-place ranking which crossties have held since records of wood preservation were started in 1909.

Of the 6,031,746 poles treated, 4,534,847 were southern pine, 478,828 were Douglas fir, 490,056 were western red cedar, 319,861 were lodge pole pine, 78,734 were northern white cedar, and 129,420 were of miscellaneous species. Of the total number of poles treated, 5,348,325 were treated with creosote, 220,515 with creosote-petroleum-pentachlorophenol solution, 58,840 with creosote-petroleum solution, 322,550 with petroleum-pentachlorophenol solution, and 81,516 with other preservatives.

A total of 2,246,196 cross arms were given preservative treatment in 1949. This represented a negligible decrease of less than 1 per cent of the number treated in 1949.

Fire-Retardant Treatment

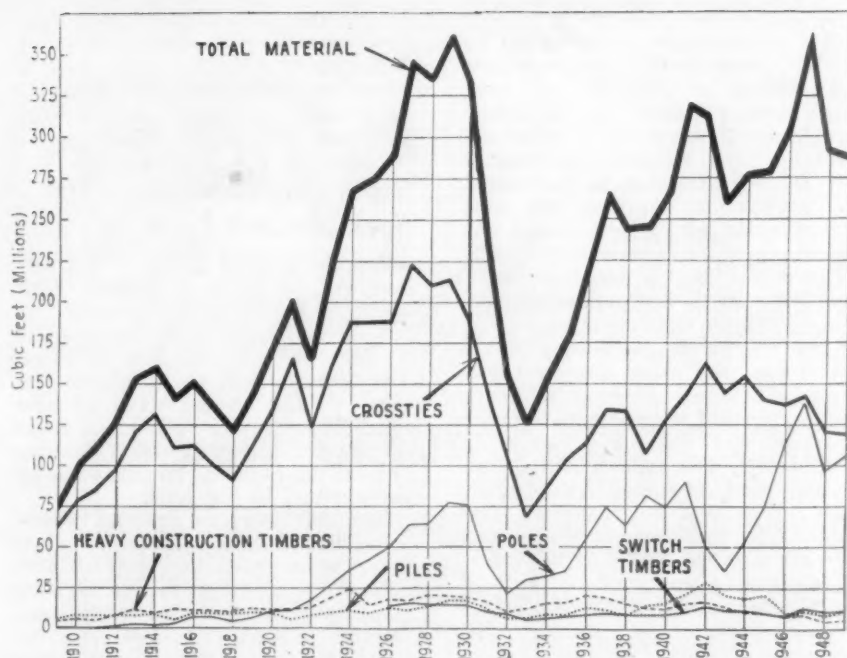
The volume of wood given fire-retardant treatment in 1949 was 8,038,637 ft. b.m. or 16 per cent less than was reported in 1948. Treatment required the use of 1,348,757 lb. of dry chemicals, mostly chromated zinc chloride, Protexol or Minalith.

Whereas in 1948 the volume of construction timbers, which includes stringers, sheet piling, beams, caps and sills or other material for trestles, bridges, wharves and docks, was the lowest since 1909, this category in 1949 registered the largest increase—14.7 per cent—of any classification of material treated. Of the 77,307,118 ft. b.m. of construction timbers treated during 1948, about 70 per cent, or 53,839,376 ft. b.m., was treated with creosote. Creosote-petroleum solution was used in treatment of 19,256,774 ft. b.m., and other preservatives for the remainder.

Although the quantity of miscellaneous material given preservative treatment in 1949—380,343,082 ft. b.m.—was 11 per cent less than the record

QUANTITIES OF VARIOUS CLASSES OF TIMBER PRODUCTS TREATED IN 1949

	Cu. ft.	Per cent change from 1948
Crossties	120,075,567	- 2.8
Switch ties	10,862,832	- 6.0
Piles	10,993,814	+ 2.9
Poles	106,158,730	+ 8.8
Wood blocks	2,265,396	-58.7
Construction timbers	6,442,260	+14.7
Cross arms	1,392,192	- 0.2
Miscellaneous	32,365,143	-11.5
Total	290,555,934	- 0.6



THE RECORD of wood preservation from 1909 to date

amount reported in 1948, it was larger than the volume treated in any other year. In spite of the total decline in this category, some of its individual classes of materials were treated in larger quantities than in 1948. Several of the classes showing increases represented materials used by railroads. These were conduit, tie plugs, crossing planks, and pole stubs.

Consumption of Preservatives

Among the liquid preservatives used in the United States in 1949, creosote and creosote-coal-tar solutions predominated with a total consumption of 200,504,952 gal., or an increase of about 3 million gal.

During 1949, wood-preserving plants consumed 54,844,078 gal. of creosote-petroleum solutions, only slightly less than the amount used in 1948. Continuing its long-standing custom, the Forest Service report indicates that creosote-petroleum solutions are used in varying proportions mainly in treatment of crossties, switch ties and poles — the petroleum, being non-toxic, acting as a diluent for the creosote. The petroleum used in such solutions in 1949 totaled 31,061,456 gal., or 1,437,218 gal. more than the amount used in 1948.

The use of solid preservatives (salts) decreased in all categories in 1949. Although the 2,903,587 lb. of chromated zinc chloride comprised a larger quantity than any other solid preservative consumed, a greater decrease — 32 per cent — was noted in its use as compared with 1948 than in that of any other solid preservative. The consumption of pentachlorophenol decreased from 2,909,314 lb. in 1948 to 2,288,614 lb. in 1949; the quantity of Wolman salts from 1,286,302 lb. in 1948 to 1,003,992 lb. in 1949; and Celcure from 218,137 lb. in 1948 to 138,

829 lb. in 1949. No copper naphthenate, as such, was reported consumed in 1949. In 1949 the wood preserving industry also used 410,299 lb. of miscellaneous solids and 908,116 gal. of miscellaneous liquids.

There were seven more treating plants in operation in 1949 than in the previous year. Of the 262 plants in operation, 190 were pressure plants, 58 were open-tank plants and 14 were equipped for both types of treatments. Nineteen of the pressure-treating plants were owned or operated by railroads for their exclusive use.

Georgia Would Drop Anti-Trust Complaint

Tells court it is willing to have case dismissed

The state of Georgia this week advised the United States Supreme Court that it is willing to have its anti-trust complaint against 20 eastern and southern railroads dismissed. Georgia's action was taken in response to a request by the railroads that the court adopt the recommendations of its special master, Lloyd K. Garrison, and dismiss the complaint for reasons stated by the master in his report of last June. (See *Railway Age* of June 17, pages 73-76).

In joining the railroads in the motion to have the case dismissed, Georgia did so on the condition that the roads agree to pay all costs and expenses not as yet paid for, including the special master's fee. The roads filed a separate brief with the court in which they agreed to this condition.

Georgia's statement to the court said the state did not adopt the statements advanced by the railroads as cause for dismissal. The state said its "primary complaint" had been directed at participation by the Association of American Railroads in the negotiation and establishment of freight rates; and that it was now willing to drop the complaint since A.A.R. interference in rate making has been eliminated.

The state went on to explain that passage of the Reed-Bulwinkle Act (Section 5a of the Interstate Commerce Act), and the subsequent filing of 5a agreements with the Interstate Commerce Commission, had removed A.A.R. influence from rate making. It noted that the Eastern agreement has already been approved by the I.C.C., and the Southern pact is pending. The state then concluded as follows:

"The improvement in the rate making practices of the railroads during the pendency of this action, coupled with the power now possessed by the I.C.C. to supervise rate association procedures, acquired since the amended complaint was filed, has convinced Georgia and its representatives that it should not press further its suit for injunctive relief with respect to the rate conference procedures of the defendants, but should look to the I.C.C. for proper regulation of the rate associations in proceedings to which all of the interested railroads are parties."

Railroad Petition

Meanwhile, the railroads had based their request for dismissal of the complaint on grounds that Georgia had not established a right to bring suit in its capacity as *parens patriae* (guardian of its citizens). The roads also said the state had failed to prove threatened loss or damage within the meaning of section 16 of the Clayton Act. Another motion was filed by the roads asking for judgment in favor of the defendants on grounds that Georgia failed to establish a claim upon which relief could be granted. The roads filed 26 exceptions to the special master's report, principally objecting to findings that territorial rate associations unduly influence rate fixing by individual roads.

Supreme Court Actions

The Supreme Court has refused to review a lower court decision in which a U. S. District Court judge ruled that the Railway Express Agency is not a "common carrier by railroad" within the meaning of the Federal Employers' Liability Act, and, as a result, the latter act is not applicable in personal injury cases involving R.E.A. employees.

The case was *James E. Jones v. New York Central and Railway Express Agency*. Jones, an employee of R.E.A., was injured while working as an "express messenger" on a New York Central train between Cleveland, O., and St. Louis, Mo. The employee brought his case under the F.E.L. act, claiming that he was an employee of both R.E.A. and the railroad, and was en-

titled to benefits against one or the other or both. It was found that Jones was an employee of R.E.A. only, and in the U.S. District Court for the Northern District of Ohio, the trial judge disposed of the case as noted above. The U.S. Court of Appeals for the Sixth Circuit upheld this ruling, which the Supreme Court has now declined to review.

In the case of *J. L. Gentry v. Seaboard Air Line* the high court refused to review another F.E.L.A. case in which the Florida Supreme Court reversed a trial court judgment in favor of an employee. Gentry, a flagman on the Seaboard, was injured when he fell on the sloping side of a rock-ballasted track as he was about to board the caboose of a moving freight train. He brought suit under the liability act, charging that the road had not provided a "reasonably safe place to work." A verdict by the trial-court jury awarded him \$3,500, but the higher state court reversed this finding and directed the trial court to enter judgment for the railroad.

Western Roads File Views On Uniform Classification

Class I roads in Western territory have filed a verified statement with the Interstate Commerce Commission in which, with certain qualifications, the roads offer "no objection" to the commission's acceptance of the so-called Greenly exhibit as a "tentative uniform classification" in the Consolidated Freight Classification case (No. 28310).

The western roads included with their statement an exhibit designed to bring up to date the "tentative ratings" contained in the Greenly exhibit. In accepting the latter, and in submitting their proposed changes, the roads said it was with the understanding that the ratings are to be applied in territory

east of the Rocky Mountains to the scales of class rates as submitted by G. R. Glover in the class rate case (No. 28300) last June 30.

As noted in *Railway Age* of September 2, page 75, the Greenly exhibit was filed by A. H. Greenly, chairman of the Official Classification Committee, as an exhibit in the class rate case. It was sponsored by both eastern and western carriers, who referred to it as "tentative ratings under consideration." The I.C.C., however, subsequently assigned the exhibit the status of a "tentative uniform classification" in the 28310 case and asked interested parties to submit "evidence-in-chief" in the form of verified statements by October 15.

It was in this connection that the western roads filed their present statement. They said the scales of class rates to be applied with the Uniform Freight Classification must be those shown in the Glover exhibit. They added that this action will maintain the Western lines' revenues "almost to the point of perfection."

"We further believe that such scales of class rates with the uniform classification, as shown in Greenly's exhibit and the changes as shown in the attached exhibit, will achieve as much harmony in class rates throughout the territory involved in Docket No. 28300 as it is possible to accomplish," they said.

The statement also referred to two other class rate investigations now pending before the commission. These are No. 30416, "Class Rates, Mountain-Pacific Territory," and No. 30660, "Class Rates, Transcontinental Rail, 1950." In this connection, the western roads said the commission should not prescribe a uniform classification for application in Western district or a scale of class rates for application in 28300 territory until the investigations

in these two related cases have been completed. Various class rates must bear some relationship, and to have it otherwise would result in violence to one territory versus another, the statement said.

Trainmen, Conductors to Seek 35-Cent Raise

The Brotherhood of Railroad Trainmen and the Order of Railway Conductors will make new demands for "across the board" wage increases of 35 cents per hour for their members. The demands will be in addition to those pending in the unsettled case which brought the B.R.T.-O.R.C. strike threat that caused President Truman to seize the railroads for operation by the secretary of the army.

The unsettled case involves principally the demands of the two unions for a 40-hr. week for yardmen with no loss in take-home pay which such employees now receive for 48 hours. The B.R.T. decision to make new demands for a 35-cent raise was reached at the brotherhood's convention in Miami, Fla., and announced in the October 23 issue of *Trainman News*. That the O.R.C. would make like demands was indicated by the announcement's statement that the B.R.T. move has been made "in conjunction with" the O.R.C. and the B. of L. F. & E.

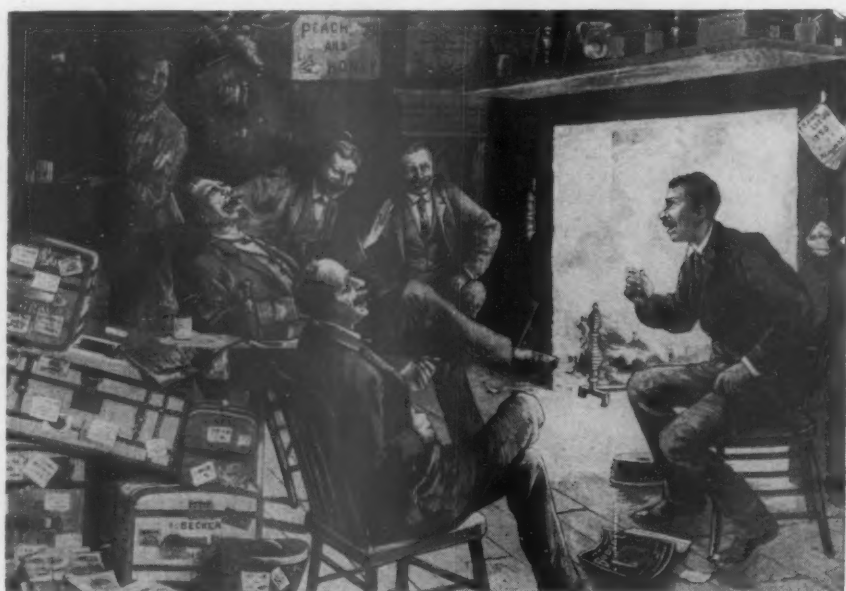
The latter's decision to seek a 35-cent raise, in addition to its other pending demands, has previously been announced by its president, D. B. Robertson. (See *Railway Age* of October 14, page 37.) Meanwhile, 15 unions representing non-operating employees have announced plans to demand a 25-cent per hour raise.

The Brotherhood of Locomotive Engineers has announced no new demands, but its pending case passed this week from the direct negotiation stage to the mediation stage. After a series of Washington meetings extending over a period of three weeks, representatives of this union and the railroads asked the National Mediation Board to enter the case. The dispute involves B. of L. E. demands for a 20 per cent increase in the basic wage rates of its members in yard service, assignment guarantees, and allowances to its members in road service for expenses at away-from-home terminals.

Honeywell "Parade of Progress" in 60 Cities

An instrument that harnesses a tiny breeze to protect workers in atomic energy laboratories is one of 38 new automatic controls displayed by the Minneapolis-Honeywell Regulator Company in a coast-to-coast tour recently launched in Rochester, N.Y. The road show, called the "Parade of Progress," will cover more than 60 U.S. cities and end in the spring of 1952, said John E. Haines, vice-president of the company's commercial division.

The purpose of the traveling show is (Continued on page 173)

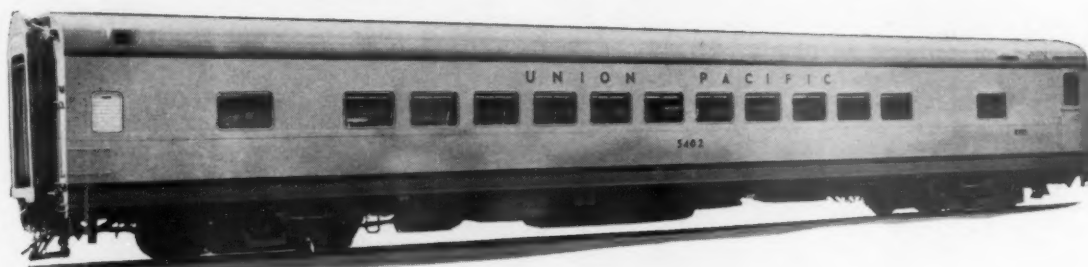


In 1900—THE COMMERCIAL DRUMMER'S THANKSGIVING—the last good story

Strong Safe

Smooth Riding

50 NEW UNION PACIFIC CHAIR CARS

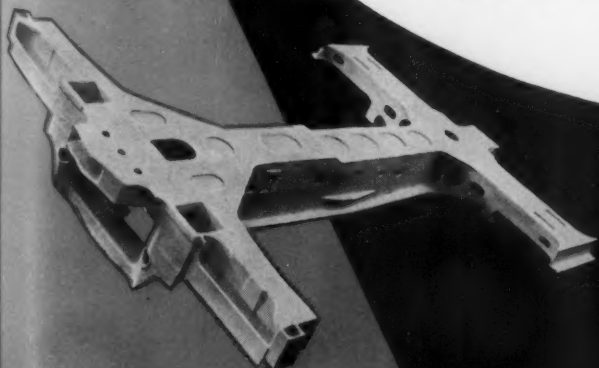


Built by
Pullman-Standard.

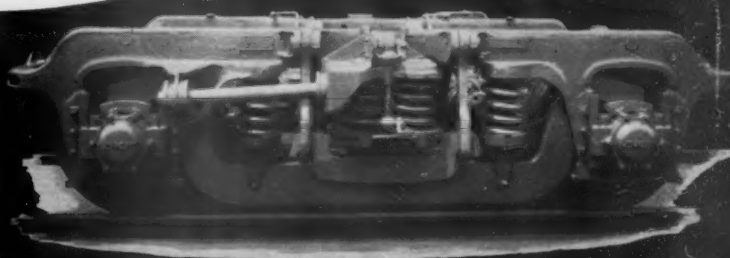
with **COMMONWEALTH** **UNDERFRAME ENDS AND** **OUTSIDE SWING-HANGER TRUCKS**

The underframes of these modern chair cars incorporate two **COMMONWEALTH** underframe end castings of heat-treated alloy steel. Each underframe end combines in one strong casting the platform center sill, end sill, coupler carrier, and body bolster. These castings have great inherent strength and ruggedness, make light-weight cars stronger and safer with minimum weight.

COMMONWEALTH trucks of the latest design, with outside swing-hangers and bolster anchors, assure comfortable riding at all speeds, lower upkeep cost and maximum availability.



Commonwealth one-piece
underframe end casting.

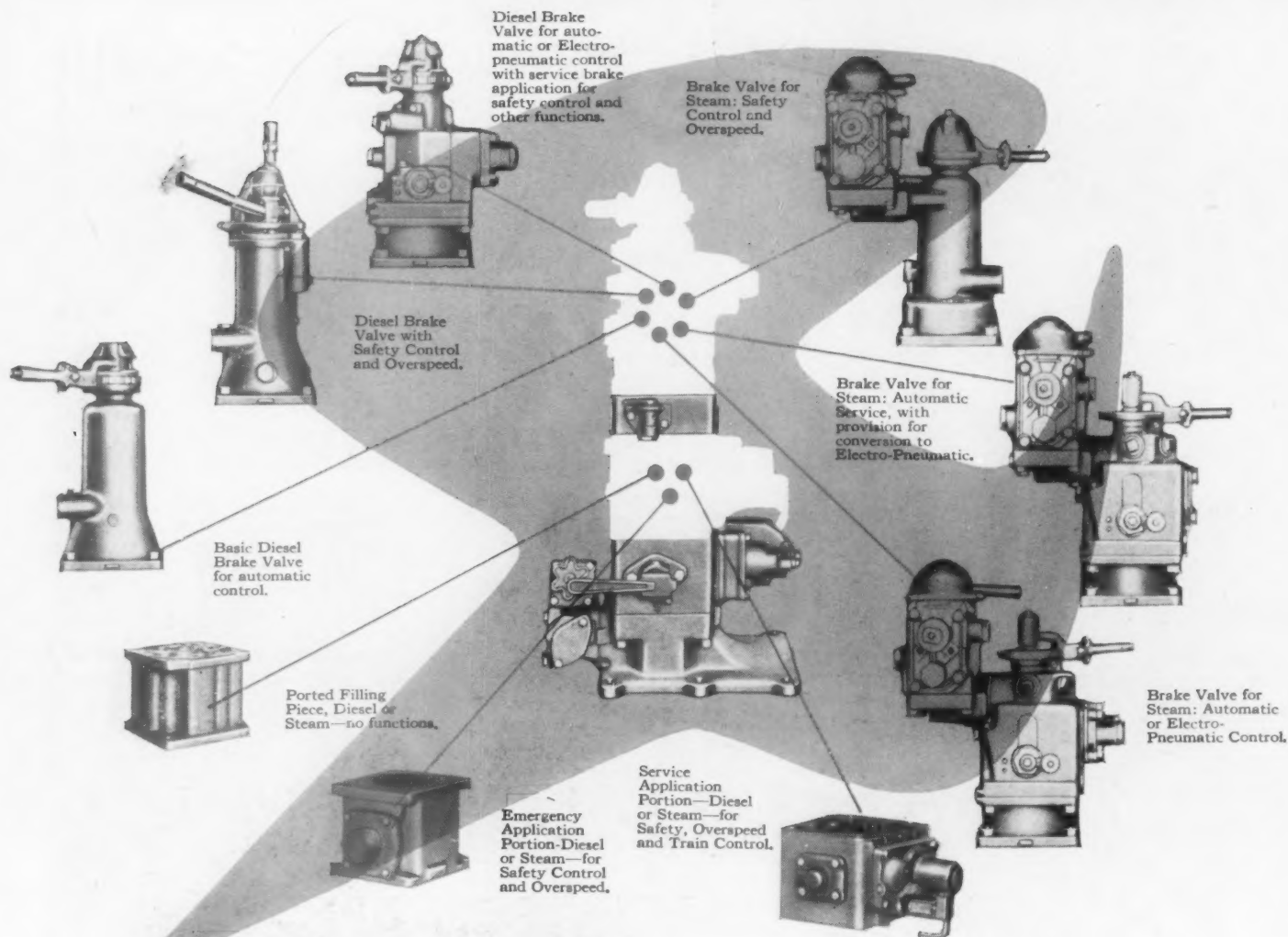


Commonwealth passenger car truck.

GENERAL STEEL CASTINGS

GRANITE CITY, ILL.

EDDYSTONE, PA.



here's how the 24-RL

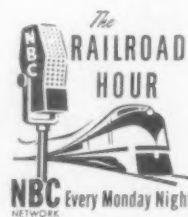
"Stacks Up"

against braking needs

Based on the modern principle of combining interchangeable parts with various functions, the Westinghouse 24-RL brake equipment is readily adapted to meet the operating requirements of any service. It is particularly suited to modern "assembly line" production of road locomotives, whose assignments may be undetermined when construction starts; functional sections with the desired function may be inserted as requirements are established.

A further advantage comes when locomotives enter service, as substitutions of parts to provide added functions can be readily made, with no change in basic piping.

For more information, ask for Catalog No. 2058.



Westinghouse Air Brake Co.

WILMERDING, PA.



RAILWAY AGE



WHEN THE CENTRAL VERMONT celebrated its 100th anniversary at St. Albans, Vt., on October 18 (see *Railway Age* of October 21, page 46), some 3,000 people (above) filled the 300-ft. station trainshed to witness re-enactment of the arrival, 100 years ago, of the city's first passenger train. An important participant in the ceremonies (left, below), was wood-burning locomotive No. 40—said to be one of the few remaining wood-burners in North America. During the day,

the C.V. turned back the pages of history by naming one of its locomotives—Mountain type No. 601. This first C.V. locomotive to carry a name in more than 60 years was christened "City of St. Albans" by Mayor Ben W. Fisher, in the presence of President Donald Gordon of the Canadian National-Central Vermont, and of two appropriately costumed young ladies (right, below)

(Continued from page 170)

to demonstrate the latest electronic, electric and pneumatic control systems recently developed and now in production, Mr. Haines added. Included in the "Parade of Progress" are heating, ventilating, and air conditioning controls for factories, office buildings, schools and public buildings. Also shown are specialized control systems for railroad passenger cars, streetcars, buses, ships and airplanes. Industrial instruments as applied to commercial heating and air conditioning and micro switching devices also are included in the traveling program. All displays and instruments are working models so that guests attending the show can see the controls in actual operation. The show travels from city to city in a special truck-trailer 43 ft. long.

August Truck Traffic

Motor carries reporting to American Trucking Associations transported in

August 4,813,182 tons of freight, an increase of 19.7 per cent above the previous month's total of 4,019,647 tons, and an increase of 35.8 per cent above the 3,544,167 tons transported in August, 1949. The figures, according to the A.T.A., are based on comparable reports from 295 truckers in 42 states.

Greyhound Corp. Gets Southeastern Greyhound

Merger into the Greyhound Corporation of the bus operating rights and properties of Southeastern Greyhound Lines has been approved by the Interstate Commerce Commission. The same commission report, in No. MC-F-4307, found that the Greyhound Corporation had effectuated control of Southeastern, and of Central Bus Lines, Cookeville, Tenn., without commission approval and thus in violation of section 5(4) of the Interstate Commerce Act.

The law violation with respect to Southeastern will be terminated with

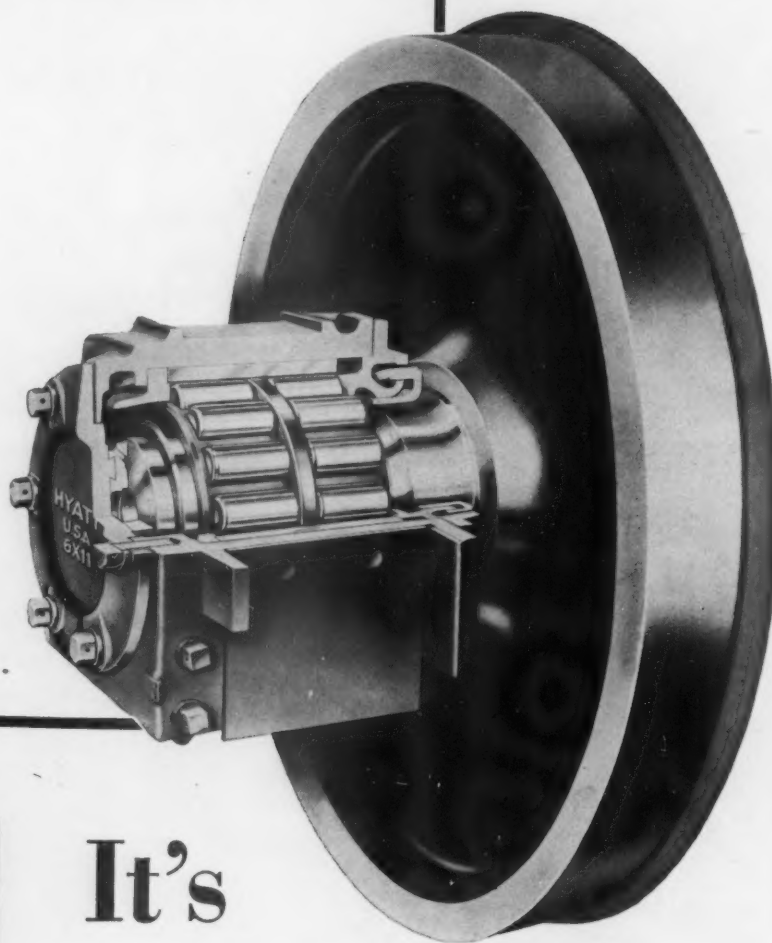
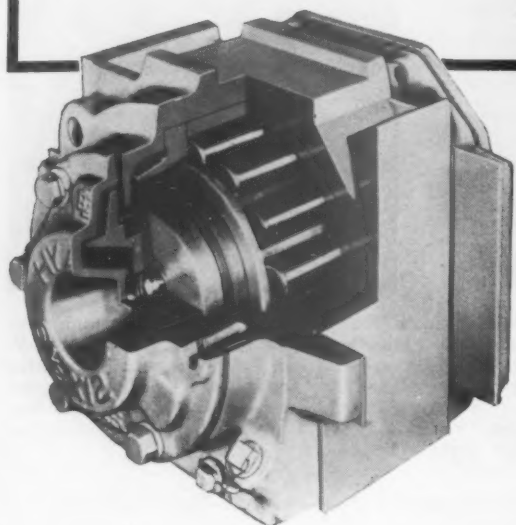
consummation of the approved merger. As to Central, the Greyhound Corporation was ordered to divest itself of all interest in that company.

Evidence reviewed in the commission's report indicated that the Greyhound Corporation established Southeastern in 1926 and sold it in 1931. The Corporation reacquired a substantial interest in 1947, after it learned that Southeastern had been engaged in negotiations with American Bus Lines and Transcontinental Bus System. It was this acquisition which was found to have been in violation of section 5(4).

Southeastern operates over 7,517 miles of routes, generally between Cincinnati, Ohio, Louisville, Ky., and Evansville, Ind., on the one hand, and Jacksonville, Fla., Tallahassee, and Mobile, Ala., on the other. It has long been a friendly connection of Greyhound system lines. No protest to the merger was made by any competing carrier or witnesses representative of

**FOR
Passenger
Cars

AND
Diesel
Locomotives**



**It's
HYATT
The "preferred" Journal Box**

Complete dependability, thoroughly proven by outstanding performance in all types of service, has developed, among railroad men, a definite preference for Hyatt Journal Boxes.

In addition to dependable operation and easier riding, officials of many roads have discovered for themselves, in their own shops, that Hyatt Journal Boxes offer many other advantages.

The ease of maintenance, interchangeability, simplified wheel turning, reduced investment in spares, and complete accessibility engineered into Hyatt boxes make them the first choice of railroad mechanical men.

Write for our new journal box visualizer and demonstrate these advantages for yourself. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT ROLLER BEARING JOURNAL BOXES

the traveling public, the commission said. As to the law-violation phase, it cited decisions wherein it has held that such transgressions were no bar to approval of the transaction involved, if it is presented to the commission with evidence showing that affirmative action would not be contrary to the public interest.

Commissioner Lee filed a dissenting-in-part opinion. He said that he wanted the Greyhound companies to continue as successful carriers, but he was "opposed to condoning violations of the law by them and to approving or authorizing transaction after transaction by them, each of which lessens free competition in interstate motor bus transportation."

One financially powerful nationwide bus system is not in the public interest," Mr. Lee added. "There is room and need for more than one. Approval of the instant application . . . substantially increases the difficulty of the development of others."

Be Alert for Schemes of Gov't. Operation—Kiley

A warning that business and industry must be alert to the possibility that, in the foreseeable future, government operation of the railroads may be presented to the public in one form or other has come from John P. Kiley, president of the Chicago, Milwaukee, St. Paul & Pacific. Mr. Kiley, speaking before the Traffic Club of Minneapolis, Minn., on October 19, said: "The railroads have contributed so much to the development and prosperity of the nation under private ownership that I do not believe the American people, if they will give the subject their customary hard-headed consideration, will change the system."

"Railroad workers," Mr. Kiley pointed out, "would suffer under government ownership since they would virtually lose the bargaining rights they now enjoy, and millions of dollars in local, state and federal taxes the railroads pay each year would be lost." Mr. Kiley recalled the record of deficit railroad operation under government ownership during World War I and stressed the private management operation during World War II, when the carriers not only met every transportation need, but also paid the government more than \$2.5 million in taxes each day.

Three major needs confront American railroads today, he said: Private, as against public ownership; equal competitive opportunity with other forms of transportation; and fair return on net investment.

"If we are to escape the catastrophe of public ownership," he added, "there should be a new, integrated and coordinated national transportation policy applicable to all forms of transportation, surface and air, under which promotional and subsidy aids would not be furnished to any one form without the fullest consideration of the effect on the others. That policy should contemplate

the abandonment of all subsidies as rapidly as possible, so as to leave each form of transportation to compete with the others in a fair and free field and so as to give the public the benefit of the most efficient and economical form of transportation for each particular service."

Canadian Railways to Get Higher Mail Pay

The Canadian cabinet has passed an order-in-council boosting by 25.8 per cent the amount paid Canadian railways for carriage of mail.

The 1950-51 estimates of the post office department contained \$9,005,000 to pay for mail service by railway, and \$8,335,747 for mail service by air.

The increase to the railways will mean that they will receive about \$2,250,000 more a year from the government, or a total of about \$11,255,000.

The increase—the first in many years—has led the department to consider an increase in parcel post rates. Higher salaries paid to employees in the last few years also have increased the department's need for more revenue.

Hollar Organizing D. T. A. Materials, Equipment Unit

Philip A. Hollar, vice-president of the American Car & Foundry Co., with headquarters at Chicago, has joined the Defense Transport Administration's staff to assist Administrator James K. Knudson in organizing and developing a Materials and Equipment Division. This was announced last week in a D.T.A. statement which also said that Mr. Hollar, who has been "loaned" to Mr. Knudson by A.C.F., will "act for the administrator during the interim period with respect to current transportation and storage, material and equipment problems arising out of national defense activities."

Since the establishment of D.T.A., Mr. Hollar has been serving as consultant to Mr. Knudson. During World War II, he served, in turn, as director of the Office of Defense Transportation's Division of Materials and Equipment, and as assistant to the vice-president, Operations and Maintenance Department, Association of American Railroads.

E. C. A. Group Concludes Study of American Roads

The railroad group, representing 12 Marshall Plan countries, completed its six-weeks American tour with meetings in Washington, D. C., on October 19, 20 and 21. The group consisted of 73 railroad officers and 12 representatives of equipment manufacturers. Its tour was made under the Economic Cooperation Administration's technical assistance program. (See *Railway Age* of September 9, page 78.)

At the October 20 session of last week's Washington meetings, the group

The Monon's Answer to Civic Indignation

The citizens of Lowell, Ind. (pop., 1,500), recently sent a petition to the Chicago, Indianapolis & Louisville asking that passenger train service be restored from three (to which it was recently reduced) to six trains daily. The Monon acted quickly. Within a week a letter signed by President John W. Barriger had gone to every one of the petitioners telling them that the service was restored.

"The Monon is gratified by your interest in this matter," the letter began. "If the loss of the discontinued service is really as serious an inconvenience as you believe it to be, this fact permits the 'Hoosier Line' to hope that it can count on increased patronage by each of you and by your families and friends."

The letter went on to give a detailed statistical account of ticket sales at the Lowell station for a period of one full year. "In all probability," the letter continued, "none of you who have written us or signed the petition have any idea of how small the Monon's ticket sales are at Lowell."

Mr. Barriger said that he welcomed the petition because it provided an occasion "not only to lay your views before the management of the railway, but also to call your attention to its problems. This exchange of views began as a petition from the community to the railroad, but the Monon wishes its reply to be considered as a petition of the 2,000 members of the Monon organization to the townspeople of Lowell to patronize our Hoosier trains. The Monon has not deserted Lowell; we fear that Lowell has been deserting the Monon."

"We hope that your response will not only justify continuing the Lowell stop on all six Monon passenger trains, but that you will help us to build passenger traffic on the 'Hoosier Line' so that it will run eight, 10 or 12 daily trains, and all will stop at Lowell."

was addressed by William C. Foster, administrator of E.C.A., J. H. Aydelott, vice-president of the A.A.R., and these members of the E.C.A. staff: Bert M. Jewell, labor adviser; Charles W. Jeffers, director, Industry Division, and Arthur G. Syran, director, Transportation Division. Dr. Klass Vonk, of the Netherlands, who was chairman of the railroad study delegation, spoke on behalf of the group. Presiding at the meeting was William Jay Hoff, director of E.C.A.'s Technical Assistance Division.

Freight Car Loadings

Car loadings for the week ended October 21 were not available at the time this issue of *Railway Age* went to press.

Loadings of revenue freight for the

BOILER CARRYOVER

Increases Your Operating Expenses

1—By reduction in cylinder horsepower of 1.5 to 2% for each 1% of moisture carryover.

2—By scale formation in superheater units, which elevates wall temperatures and causes failures.

3—By rapid wear of bushings and packing in valve chests and cylinders from solids in the water. Lubrication adversely affected.

Eliminate these unnecessary expenses by eliminating boiler carryover...with the Elesco Steam Dryer System. Trial applications are more convincing than words.

THE SUPERHEATER CO., INC.

Division of
COMBUSTION ENGINEERING-SUPERHEATER, INC.

200 Madison Ave., NEW YORK 16

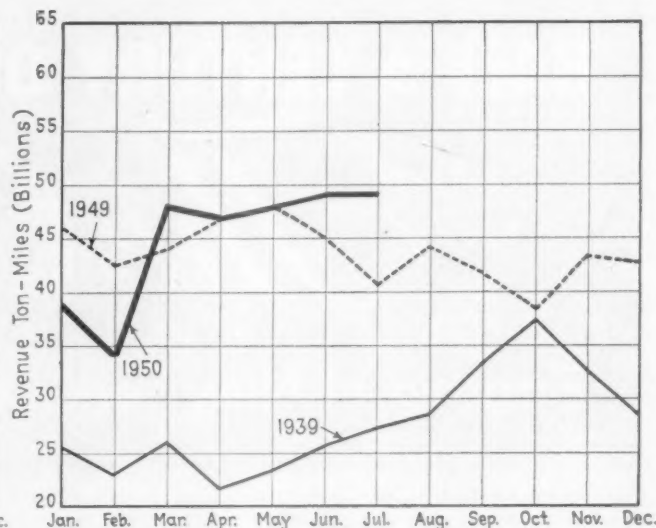
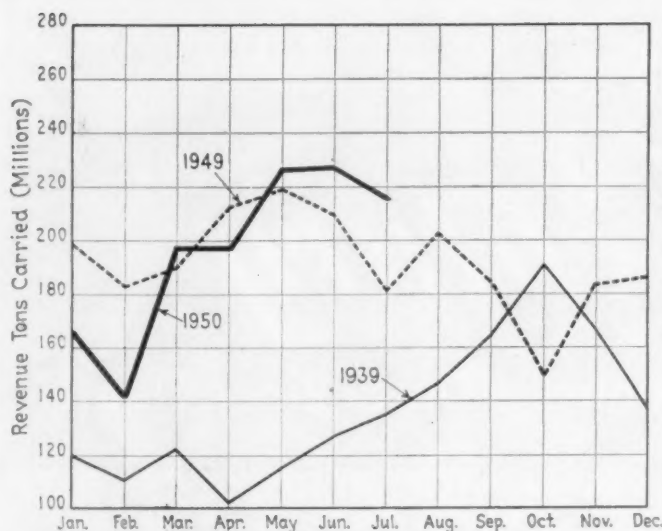
Bankers Building, CHICAGO 3

Montreal, Canada, THE SUPERHEATER COMPANY, Ltd.

Representing AMERICAN THROTTLE COMPANY, INC.



Superheaters • Superheater Pyrometers • Exhaust Steam Injectors • Steam Dryers • Feedwater Heaters • Steam Generators • Oil Separators • American Throttles



REVENUE TONS AND REVENUE TON-MILES—1950 compared with 1939 and 1949

week ended October 14 totaled 888,559 cars, and the summary for that week as compiled by the Car Service Division, Association of American Railroads, follows:

REVENUE FREIGHT CAR LOADINGS For the week ended Saturday, October 14			
District	1950	1949	1948
Eastern	148,678	112,531	159,141
Allegheny	174,476	90,180	187,179
Pacahontas	66,125	19,692	69,618
Southern	138,209	101,904	138,057
Northwestern	150,007	83,503	141,512
Central Western	144,308	128,989	145,528
Southernwestern	66,756	47,149	71,922
Total Western Districts	361,071	259,641	358,962
Total All Roads	888,559	583,948	912,957
Commodities:			
Grain and grain products	55,366	52,950	51,755
Livestock	17,259	19,512	19,925
Coal	163,786	51,368	177,374
Coke	16,273	3,905	14,983
Forest products	48,954	40,014	48,331
Ore	77,253	7,582	66,896
Merchandise			
I.c.l.	88,913	88,476	111,771
Miscellaneous	420,755	320,141	421,922
October 14	888,559	583,948	912,957
October 7	863,676	574,228	891,651
September 30	879,985	658,128	908,866
September 23	870,196	661,468	908,592
September 16	866,207	743,022	909,989

Cumulative total
41 weeks .. 30,251,497 28,971,154 34,029,643

In Canada.—Car loadings for the week ended October 14 totaled 81,323 cars, as compared with 89,273 cars for the previous week and 77,619 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd. from Connections
Totals for Canada:		
October 14, 1950	81,323	35,535
October 15, 1949	77,619	31,831
Cumulative totals for Canada:		
October 14, 1950	3,007,638	1,272,645
October 15, 1949	3,065,431	1,262,780

Denies Livestock Petition

The Interstate Commerce Commission has denied the petition filed last June by various livestock interests asking the commission to order the railroads to show cause why livestock rates should not be reduced immediately.

The commission's dismissal order said the petition, and those in its support, "do not present grounds sufficient to warrant the issuance of such an order." (See *Railway Age* of June 24, page 125.)

Waybill Studies

Two additional waybill studies have been issued by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. They are: Statement No. 5049, Distribution of Petroleum Products by Petroleum Administration Districts — First quarter 1950; and Statement No. 5050, Distribution of Number of Carloads by Commodity Class and Type of Car — Terminations in 1949.

Miller Joins D.T.A. Staff

Benjamin R. Miller, director of industrial relations of American Trucking Associations, has been "loaned" to the Defense Transport Administration. An announcement by D.T.A. said that Mr. Miller would assist in developing a manpower division and act for Administrator James K. Knudson "during an interim period with respect to current transportation manpower problems."

Mr. Miller served during World War II as a member of the staff of the former Office of Defense Transportation. He has been with A.T.A. since 1945.

Fourth-Section Relief For Motor-Rail Rates

The Interstate Commerce Commission has made permanent the relief under which five southwestern railroads and a group of motor carriers have been authorized to maintain joint rail-motor rates without observing the long-and-short-haul clause of the Interstate Commerce Act's section 4. The rates involved are in effect between points in Southwestern territory, including Mississippi river crossings,

Memphis, Tenn., and south, and between points in that territory and points in Southern territory. They are on the same basis as all-motor rates in effect between the same points.

The five railroads are the Texas & Pacific, Texas-New Mexico, Kansas City Southern, Louisiana & Arkansas, and Arkansas Western. While they prayed for the relief, they nevertheless contended that the commission should dismiss their applications on the basis of a finding that the fourth section does not apply to rail-motor rates. The commission rejected the contention, citing (*Motor-Rail-Motor Traffic in East and Midwest*), 219 I.C.C. 245, wherein it held that the Fourth section does apply to such rates. "We see no reason for a different conclusion in the instant proceeding," the report added.

The title case of the instant proceeding was Fourth Section Application No. 20830. The commission's report embodied a 6-to-4 decision. It had notations stating that Commissioners Alldredge, Patterson, Mitchell, and Knudson dissented, and that chairman Johnson did not participate.

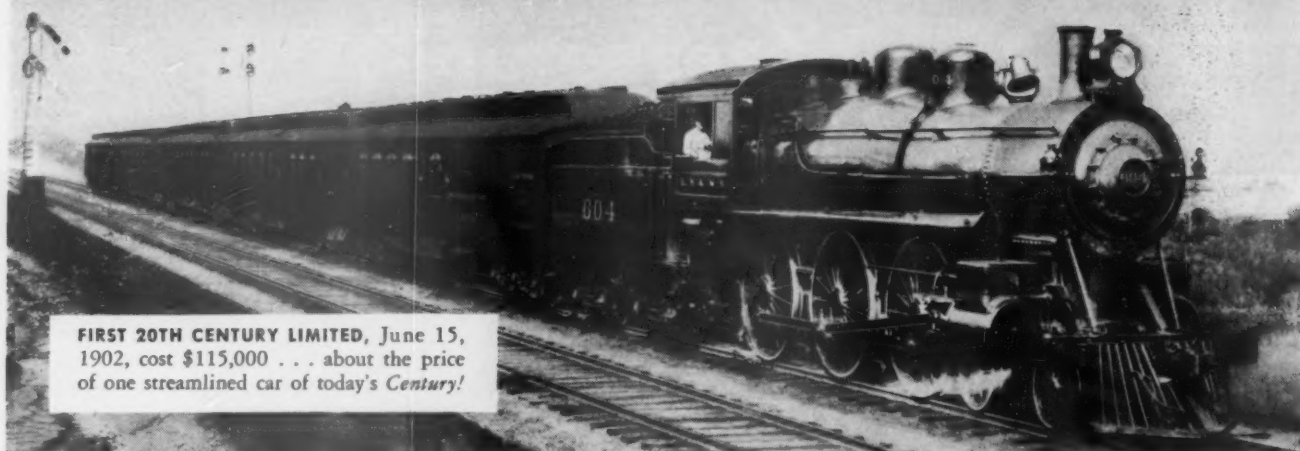
C.&E.I. Banks on Enlarged Traffic Force

In two years, the Chicago & Eastern Illinois has increased, by nearly one-third, the number of commercial and general agents it has in the field. "We look for increased freight revenue now that we are giving full-time service to additional points of origin and control," C.&E.I. President Clair M. Roddewig told the traffic staff assembled at Chicago for a railway sales training program on October 10 and 11. Mr. Roddewig said that "while we realize that some time is required for these new agencies to become established, we have been agreeably surprised with the speed at which they are taking hold and getting us additional business." Mr. Roddewig disclosed that as of the end of August, the C.&E.I.

HALF A CENTURY OF

"The Century"

Flagship of New York Central's Dreamliner Fleet!



FIRST 20TH CENTURY LIMITED, June 15, 1902, cost \$115,000 . . . about the price of one streamlined car of today's Century!

TOPPERS WERE COMMON . . . tallyhoes not unusual . . . and the Gibson Girl was America's sweetheart . . . when the first 20th Century Limited took the rails behind one of New York Central's fast ten-wheelers. And through many a transformation, the atmosphere of that age of elegance has lived on aboard the world's most famous train.

Yet, for all its luxury, the Century, rather than standing alone, has paced the NEW in New York

Central. And from the much admired electric lights of 1902 to the latest bit of streamlining, Century innovations have spread to other Central trains.

So it is that today's Century leads, not simply as a train, but as the flagship of a great new luxury fleet. A fleet in which Central, since 1945, has invested \$73,000,000 for new streamlined cars and \$23,000,000 for Diesels . . . nearly \$100,000,000 in the continuing cause of PASSENGER PROGRESS!



THE MID-CENTURY "CENTURY," an all-private-room Dreamliner, links Chicago and New York between business and breakfast.

NEW YORK CENTRAL

The Water Level Route—You Can Sleep



had totaled up \$15,032,858 in freight revenues, considerably ahead of the \$14,719,196 total for the same period in 1949.

Following the two-day meeting, the entire sales force made an inspection tour of the road's facilities at Chicago and Danville and at Evansville, Ind. The meeting was the first of its kind ever held by the C.&E.I.

September Employment

Railroad employment increased 0.92 per cent — from 1,271,505 to 1,283,262 — from mid-August to mid-September, and the mid-September total was 10.1 per cent above that of September, 1949, according to the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index of employment, based on the 1935-1939 average as 100, was 122.7 for September, compared with 122 for August, and 111.5 for September, 1949.

September employment was above that of the previous month in all groups except two—executives, officials and staff assistants, and yardmasters, switchtenders and hostlers, which were down 0.08 per cent and 0.04 per cent, respectively. The range of the increases was from 0.14 per cent for the group embracing professional, clerical and general employees to 1.55 per cent for the train and engine service group.

As compared with September, 1949, all groups were up except executives, officials and staff assistants, which was down 0.66 per cent. The increases ranged from 2.87 per cent for the professional, clerical and general group to 16.35 per cent for the maintenance of equipment and stores group.

Rail Territories File New Bulwinkle Act Pact

A Bulwinkle Act agreement which would provide procedures for the joint consideration of interterritorial traffic matters has been filed with the Interstate Commerce Commission as Section 5a Application No. 26.

Railroad parties to Western, Eastern, Southern, Illinois and Southern Ports Foreign Freight Committee Agreements have proposed the pact. It would supplement the various territorial agreements, and provide for the continuation of four interterritorial committees—Uniform Classification Committee, National Perishable Freight Committee, National Container Committee, and National Diversion and Reconsignment Committee.

The proposed agreement would relate to "rates, fares, classifications, divisions, allowances and charges, and rules and regulations pertaining thereto, applicable interterritorially between points in any two or more of the territories, and procedures for the joint initiation, consideration, and establishment thereof." According to the application filed with the I.C.C., this agree-

ment is necessary for the maintenance of a sound interterritorial rate structure, which, in turn, "is the foundation of sound economic conditions in the railroad industry and in the country as a whole."

Among other things, the new agreement would provide that the chairman of a territorial group will handle matters for the member roads of that territory. The right of independent action, however, is reserved to each road. When interterritorial matters are taken up by a territorial group, member roads will take individual action under the provisions of their respective territorial agreements.

Expenses of the four committees that would be continued under the agreement would be shared among the territories. Western, Eastern, and Southern territories would each pay one-third of the expense for the Uniform Classification, National Perishable Freight, and the National Diversion and Reconsignment Committees. National Container Committee expenses would be divided among all the parties to the agreement, substantially on the basis of respective gross revenues.

The I.C.C. notice announcing receipt of the application said any person desiring a hearing should request it in writing within 20 days from the notice's date (October 19). "Otherwise," the notice said, "the commission, in its discretion, may proceed to investigate and determine the matters involved in such application without further or formal hearing."

SUPPLY TRADE

Harmond S. Eberhard, vice-president of the Caterpillar Tractor Company, Peoria, Ill., has been promoted to executive vice-president. William Blackie, vice-president, has been selected to coordinate with Peoria the administration of the Joliet (Ill.) and San Leandro (Cal.) plants and the Caterpillar Tractor Company, Ltd. (new British subsidiary). E. W. Jackson, director of parts and service, and Ralph M. Monk, director of industrial relations, have been advanced to vice-presidents.

The Binks Manufacturing Company has purchased a new plant at 4915 Pacific boulevard, Los Angeles, Cal., with occupancy scheduled for the end of October. It will be operated under direction of J. E. Roche, manager of the west coast division, covering California, Oregon, Washington, Arizona, Utah, Nevada and Idaho.

The French Mill Supply Corporation, 640 Varick street, Utica, N.Y., with James B. French as president and general manager, has been designated by the Hyster Company, Portland, Ore., to sell and service Hyster trucks in 16 counties of central New

York state. Speer & Co., 7824 Hamilton road, Mt. Healthy, Cincinnati, Ohio, has taken over sale and service of Hyster industrial handling equipment in southwestern Ohio, eastern Indiana and northern Kentucky. A. Burns Speer and Charles W. Mayer, both formerly connected with the Equipco Sales Company, Hyster's truck dealer in Pittsburgh, Pa., are in charge of the new company.

The Murray Equipment Company, 11820 Brush street, Detroit, Mich., has signed a distributorship agreement to handle Worthington Pump & Machinery Corp. Multi-V Drives and fractional horsepower belts and sheaves. The Murray staff includes William Anderson, sales manager, and William Faulk and Joseph Livermore, sales engineers.

The Cooper-Bessemer Corporation has announced that for several months John Fulleman, authority on engine supercharging and centrifugal compressor design, has been at work with the company's engineering staff coordinating a broad engine development under way at its Mt. Vernon, Ohio, headquarters plant.

The Osgood Company and the General Excavator Company, Marion, Ohio, have combined their sales management and policies for distribution of Osgood and General power shovels, cranes, draglines, clamshells, hoes and mobilcranes. L. O. McLean, formerly sales manager of General Excavator, has been appointed director of sales development; James S. Fortiner has been appointed sales manager for the combined office and Kenneth O. Williamson, formerly division sales manager in New York-New England, has been appointed assistant sales manager. George Day, formerly sales manager of the Osgood Company, has retired after 30 years service with the firm.

OBITUARY

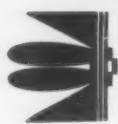
Harry F. Lowman, special representative of the Vapor Heating Corporation, died on October 18 in Washington, D. C. Mr. Lowman had been associated with Vapor for 37 years.

EQUIPMENT AND SUPPLIES

Equipment on Order

Class I railroads and railroad-owned refrigerator car lines had 99,155 new freight cars on order October 1, when the Class I roads also had 1,439 new locomotives on order. The comparable figures for October 1, 1949, were 21,370 freight cars and 800 locomotives. These and other data herein are from

Ride **Great Trains** *through a* **Great Country**



Si, si, si, chico! Riding one of Santa Fe's great fleet of fine trains is certainly the way to see that romantic Southwest of yours. Santa Fe trains are famous for comfort and room to move around... for a wonderful choice of fine Fred Harvey meals... for dependable on-time schedules, regardless of weather... for arriving right downtown. Yes, traveler, figure it out—you'll go Santa Fe—all the way!



For information, just phone any Santa Fe office or consult your local travel or ticket agent, or write R. T. Anderson, General Passenger Traffic Manager, Santa Fe System Lines, Chicago 4

October 20 issue of "The National Transportation Situation," a monthly review by Chairman Arthur H. Gass of the Car Service Division, Association of American Railroads.

The 99,155 new freight cars on order October 1 included the following: Box, 48,595; gondolas, 23,818; hoppers, 12,621; covered hoppers, 4,002; refrigerator, 5,448; flats, 3,303. The breakdown of the October 1 locomotive orders was: Diesel-electric, 1,407; steam, 20; electric, 12.

New freight cars installed during September totalled 5,309, while retirements of the month totalled 6,031 cars. During the 12 months ended with September, 38,021 new freight cars were placed in service while 87,956 were retired.

New locomotives placed in service during September totalled 215, while 177 locomotives were retired during the month.

All but two of the newly installed locomotives were Diesel-electrics, while the retirements included 166 steam locomotives, 10 Diesel-electrics, and 1 electric. During the 12 months ended with September, the installations totalled 2,128 locomotives, of which 2,108 were Diesel-electrics. Meanwhile, the 12-months' retirements totalled 4,009 locomotives of which 4,002 were steam.

M.P. to Spend \$18 Million On 124 Diesels, 7 Coaches

The Missouri Pacific Lines have been authorized to spend almost \$18,000,000 for 124 Diesel-electric locomotive units and 7 planetarium dome coaches. Included in the order will be 7 three-unit 4,500-hp. and 4 two-unit 3,000-hp. freight locomotives; 5 two-unit 3,000-hp. and 22 one-unit 1,500-hp. road-switching locomotives; three two-unit 4,000-hp. passenger locomotives, and 37 one-unit 1,200-hp. switching locomotives. All these locomotives are for the Missouri Pacific. For the Gulf Coast Lines the purchases will include 7 one-unit 1,500-hp. road-switching and 5 one-unit 1,200-hp. switching locomotives. For the International-Great Northern there will be 8 one-unit 1,500-hp. switching locomotives.

The new dome coaches will be used in the "Missouri River Eagles" and the West and South Texas sections of the "Texas Eagles" to provide daily service between St. Louis and Omaha, between St. Louis and Dallas-Fort Worth, and between St. Louis and San Antonio.

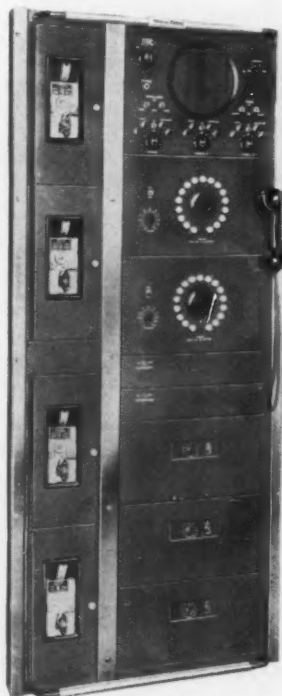
Under present plans the Missouri Pacific's entire switching operation at Kansas City will be dieselized. P. J. Neff, chief executive officer said. New locomotive acquisitions also will make it possible to Dieselize entirely lines from Kansas City to Omaha and from Kansas City to Pueblo, Colo., and increase materially Diesel locomotive usage on other principal routes of the company's lines between St. Louis and the Southwest and between St. Louis

Music SHORTENS THE MILES

on Coast Lines
Florida Streamliners



To make the traveler's trip more interesting and enjoyable; to make the miles seem shorter, the Coast Line equipped its "Florida Special", aristocrat of its fleet of winter trains, and its "West Coast Champion" with a railroad radio and sound distribution system, and has also similarly equipped its "East Coast Champion".



This system, distributed exclusively by Graybar, consists of the program distribution system panel shown at left, plus all accessory equipment, such as antennae and lead-ins. Also, high-quality loudspeakers with transformers, selector switches, volume controls, and all associated wiring.

This three-channel, high-level sound system has five input sources, and is specifically designed for use on deluxe railroad trains. Up to 300 speakers may be operated with the system. The five input sources are two pairs of magnetic wire reproducers, two specially-designed railroad radio receivers, and announcing handsets.

The loudspeakers and selector switches are located throughout the train so that any one of three programs may be selected in any open section or private space.

OTHER RAILWAY ELECTRICAL EQUIPMENT

Graybar distributes more than 100,000 first-quality electrical items throughout the nation from a network of offices and warehouses located in more than 100 principal cities. Graybar service to railroads also includes the help of specialists in selection, procurement, and application of pole-line supplies, communication equipment, and equipment for every type of railway lighting. Your local Graybar Representative will be glad to give you information about them — just call our nearest office. *Graybar Electric Company, Inc. Executive offices: Graybar Building, New York 17, New York.*

5017

OFFICES AND WAREHOUSES IN OVER 100 PRINCIPAL CITIES



and Kansas City. Most passenger trains on the latter route now are Diesel-powered.

On Texas lines receipt of the new locomotives will result in complete Dieselization of all mileage from Palestine through San Antonio to Laredo and Corpus Christi, and of all lines in the "Winter Garden" district of south Texas. All lines in the lower valley of the Rio Grande south of Kingsville also will be Dieselized when the new equipment is received.

When all the new power is received there will be only a few of the M.P.'s principal passenger trains not operated by Diesel power; more than 66 per cent of the railroad's tonnage will be Diesel hauled.

When all units in the new order have been received, Mr. Neff estimated that it will be "possible for the M.P. to retire an additional 157 steam locomotives."

FREIGHT CARS

The **Baltimore & Ohio** has ordered 4,000 50-ton hopper cars. The order was divided equally among the American Car & Foundry Co., the General American Transportation Corporation, the Pullman-Standard Car Manufacturing Company and the Bethlehem Steel Company. An inquiry by this road for 2,000 hopper cars was reported in *Railway Age* of October 14, page 57.

The **Chicago & Eastern Illinois** has ordered an additional 25 flat and 25 covered hopper cars from the Thrall Car Company. The cars, to cost \$225,000, are scheduled for delivery during the first quarter of 1951.

The **Sunray Oil Corporation** has ordered 200 liquid petroleum gas tank cars from the American Car & Foundry Co.

The **Texas & Pacific** has ordered 250 70-ton hopper cars and 100 70-ton covered hopper cars (all triple hopper design and steel construction) from the American Car & Foundry Co., and 200 50-ton steel box cars from the Pressed Steel Car Company. Delivery of the hopper cars is expected in the third and fourth quarters of 1951 and the box cars are scheduled for delivery in the third quarter of 1951. In addition, the road will build in its own shops at Marshall, Tex., 100 50-ton steel flat cars and 150 70-ton steel gondolas, as soon as material is available. The road's intention to purchase the 800 freight cars was reported in *Railway Age* of September 23, page 56.

PASSENGER CARS

The **Commonwealth Railways of Australia** have ordered three rail Diesel cars from the Budd Company through the latter's Australian representative, Commonwealth Engineering Company. "It is the first order placed for these . . . cars by a foreign railroad and was recommended

by P. Hannaberry, commissioner of Commonwealth Railways, now visiting this country," H. A. Coward, Budd vice-president, said.

The **Texas & Pacific** will acquire one planetarium dome coach to be used in conjunction with Missouri Pacific equipment between St. Louis, Mo., and Fort Worth, Texas. (See M.P. equipment item above.)

LOCOMOTIVES

The **Chicago & Eastern Illinois** has ordered six 1,500-hp. Diesel-electric general purpose locomotive units from the Electro-Motive Division of General Motors Corporation. The units, to cost \$900,000, are scheduled for delivery next December and in January, 1951.

SIGNALING

The **Cincinnati, New Orleans & Texas Pacific** has ordered equipment from the General Railway Signal Company for installation of a combination coded remote control and relay interlocking at Oakdale, Tenn. The control machine, to be located in GF tower, will have an 18-in. by 40-in. panel equipped with 22 track indication lamps and 28 working levers for control of 14 switch machines, 2 switch locks and 32 signals. The machine will control an interlocking and 3 outlying switch points. Model 5D switch machines, type K relays, model 9A electric switch locks, type SC searchlight signals and type ME color-light dwarf signals will be used.

The **Great Northern** has ordered from the General Railway Signal Company a five-unit table interlocker for controlling five signals at the Boylston, Wis., interlocking. Model 5D dual-controlled electric switch machines and type K relays were included in this order.

IRON & STEEL

The **Southern Pacific** has authorized expenditure of about \$14,000,000 for new rail and fittings for its 1951 program. Orders totaling \$8,400,000 have been placed with the Colorado Fuel & Iron Corp. and the Columbia Steel Company. The remainder will be spent for rail fittings.

CAR SERVICE

I. C. C. Service Order No. 851 has been modified by Amendment No. 3 which set back the expiration date from October 31 to January 31, 1951. The order authorizes railroads serving Nevada, Oregon, California and Arizona to furnish not more than three S. F. R. D. or P. F. E. refrigerator cars (not suitable for transporting commod-

ities requiring protective service) in lieu of one box car ordered for shipment between points in those states.

I. C. C. Service Order No. 860 has been modified by Amendment No. 2 which set back the expiration date from October 31 to January 31, 1951. The order authorizes use of not more than three refrigerator cars, in lieu of one box car ordered, for transportation of fruit and vegetable containers, box shooks or other packaging or packing materials, on intrastate movements in Washington, and from origins in that state, Oregon and California to destinations in California.

ABANDONMENTS

Application has been filed with the I.C.C. by:

NEW YORK CENTRAL—To abandon approximately 15.7 mi. of branch line between Limerick, N. Y., and Cape Vincent. The application said that business handled over the line is not sufficient to justify maintenance and operation.

ST. LOUIS-SAN FRANCISCO—To abandon a line between Poplar Bluff, Mo., and Piggott, Ark., 32.8 mi.

Division 4 of the I.C.C. has authorized:

BUFFALO, ROCHESTER & PITTSBURGH-BALTIMORE & OHIO—The former to abandon, and the latter to abandon operation of, approximately 2.4 mi. of branch line between Homer City, Pa., to Waterman.

MINNEAPOLIS & ST. LOUIS—To abandon approximately 9.5 mi. of branch line between Newburg, Ia., and Laurel. As an alternative to abandonment, protesting parties in the case urged Division 4 to require continued operation of the line on a trial basis for one or two years. The division found, however, that such a trial period was not warranted by available traffic.

CONSTRUCTION

Minnesota Transfer.—A pneumatic tube system, to handle waybills between yard offices and the general office, is being installed by the Standard Conveyor Company, of North St. Paul, Minn. The system will consist of two parallel 4-in. tubes. One will have a continuous run between the general office and the Raymond Avenue yard office, 6,600 ft.; the other will have an intermediate station at the road's hump yard office. The entire project is estimated to cost \$40,000.

Pennsylvania.—Work is nearing completion on this road's multi-million dollar project of tunnel and track improvement along its main line between Pittsburgh, Pa., and Columbus, Ohio, to expedite movement of freight, and the entire project will be completed toward the end of next month. Elimination of four restricting tunnels and the straightening of curves on the road's main Panhandle route to the South, Southwest and West will speed movement of freight to and from the Cincinnati, Ohio, Louisville, Ky., and St. Louis, Mo., gateways and will also quicken on-line freight service between

these cities, intermediate points and Pittsburgh and the east, now using the tunnels or detouring around them.

In accomplishing the extensive line improvement, underway since June, 1949, the Pennsylvania has moved the equivalent of 185,000 carloads of earth and rock, an undertaking that was not economically feasible until after World War II, when new earth-moving machinery became available. Four tunnels were by-passed by construction of new line. Substantial savings in maintenance will be realized.

FINANCIAL

Chicago, Milwaukee, St. Paul & Pacific.—Scrip Certificates.—In order that old securities and claims may continue to be surrendered for exchange after the present voting-trust agreement terminates December 1, this road has been authorized to issue scrip certificates in lieu of fractional shares of series A preferred and common stock. The I.C.C. said this authority is granted in further consummation of the road's plan of reorganization as approved in 1944. As of August 31, the voting trustees held 16,362.17 shares of series A preferred and 78,652.72 shares of common stock, these shares having been allotted by the plan of reorganization to old securities and claims that have not yet been surrendered for exchange.

Kansas City, Shreveport & Gulf Terminal.—Bond Extension.—Division 4 of the I.C.C. has authorized this company to extend to August 1, 1975, the maturity date on \$150,000 of its first mortgage bonds. The bonds bear interest at 6 per cent and are owned by the Kansas City Southern.

St. Louis Southwestern.—Lease of Subsidiaries.—Division 4 of the I.C.C. has authorized this road to extend present lease agreements with two of its wholly owned subsidiaries, Gray's Point Terminal and Valley Terminal. Each of the new agreements will be effective as of January 1, 1950, and will extend to July 1, 1990. The division's report in each case noted that there will be no change of substance in the basis upon which this road now leases and operates the properties. Both subsidiaries will retain separate corporate existence, the reports said.

Trona.—New Stock Issue.—This road, which operates between Trona, Cal., and Searles Station, approximately 30.5 mi., has been authorized by the I.C.C. to issue \$850,000 of new common stock, consisting of 34,000 shares with par value of \$25 a share. Of this amount, 6,000 shares will be delivered to the road's owner, American Potash & Chemical Corp., in exchange for the road's present outstanding stock — 1,500 shares of \$100 par value. The



Style WUG
Universal Gas Mask

Safe—Comfortable—Dependable

WILLSON

Gas Masks For Every Hazard



Style WHG
Emergency Type



Style WIG
Industrial Gas Mask

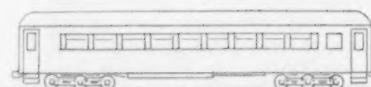
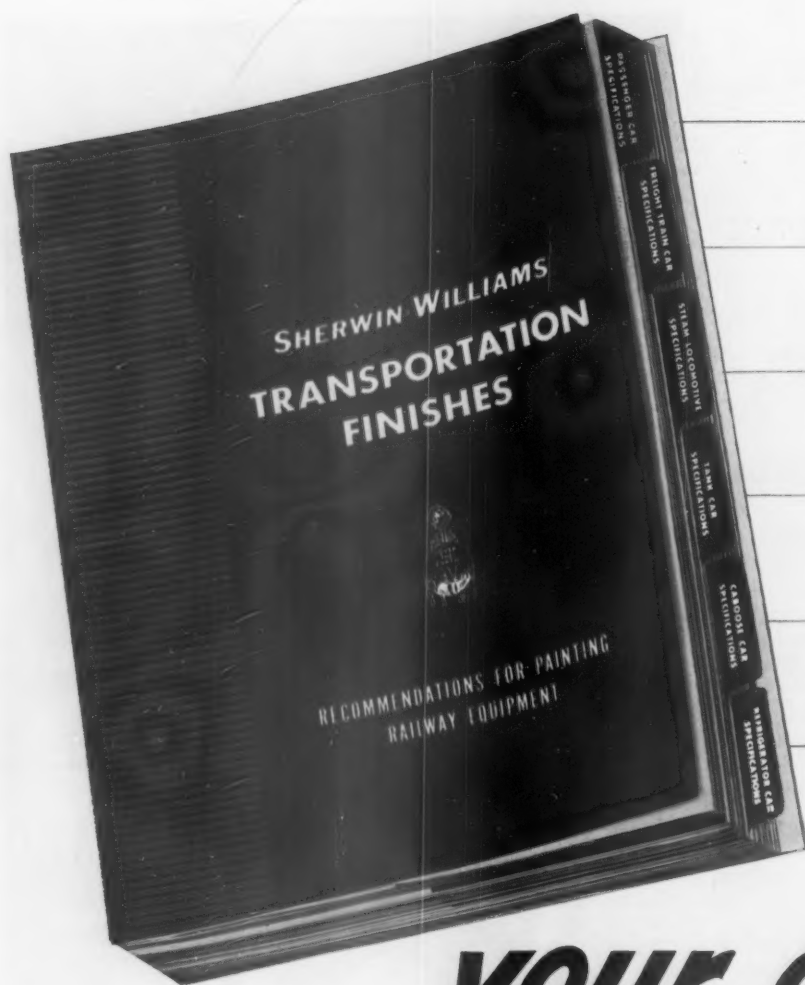


Style WTG
Tank Gaugers' Mask


WILLSON
Dependable Products Since 1870
*T.M. Reg. U.S. Pat. Off.



For effective protection against acid gases, organic vapors, carbon monoxide, fumes, mists, smokes and similar hazards, there is a WILLSON Gas Mask approved by the U. S. Bureau of Mines. They have been designed with every consideration for worker safety and comfort. A selector table and complete information on various types is included in our new catalog. Ask our nearest distributor for a copy—or write direct to WILLSON PRODUCTS, INC., 241 Washington St., Reading, Pa.



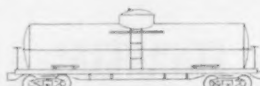
PASSENGER CAR SPECIFICATIONS



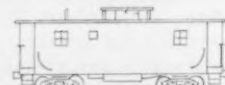
FREIGHT TRAIN CAR SPECIFICATIONS



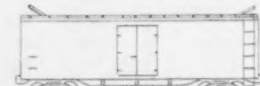
STEAM LOCOMOTIVE SPECIFICATIONS



TANK CAR SPECIFICATIONS



CABOOSE CAR SPECIFICATIONS



REFRIGERATOR CAR SPECIFICATIONS

your guide

to better engineered FINISHES for rolling stock



WEATHERED FINISHES FOR STATION MAINTENANCE

Sherwin-Williams Railway Station Paints are specifically designed, too, to meet the requirements of railway service, both in color styling and in durability. Ask for booklet E739.

Good engineering practice pays—in finishes and finishing methods as well as in the costly equipment they protect!

This 190-page book summarizes recommended methods and materials for maintenance of all types of railway rolling stock, out of Sherwin-Williams broad background of experience in supplying railway finishes for over 75 years.

You'll find latest Sherwin-Williams advances in paint technology included with complete specifications for specialized railway application. The book is available to railway executive or supervisory personnel without cost, through Sherwin-Williams Transportation Division representatives or by writing The Sherwin-Williams Co., Transportation Division, Cleveland 1, Ohio.

SHERWIN-WILLIAMS
RAILWAY FINISHES



remaining 28,000 shares authorized will go to the corporation as a dividend.

New Securities

Application has been filed with the I.C.C. by:

PEORIA & EASTERN.—This road and the New York Central have applied to the I.C.C. for authority to assume liability for \$2,025,000 of P. & E. equipment trust certificates. The proceeds would finance in part the acquisition, from the Electro-Motive Division of the General Motors Corporation, of 21 Diesel-electric locomotives—7 1,200-hp. switchers at \$99,965 each, 12 1,500-hp. road switchers at \$141,780 each, and 2 1,500-hp. road switchers at \$152,170 each. The certificates, dated November 15, would mature in 15 annual installments of \$135,000 each, beginning November 15, 1951. They would be sold on the basis of competitive bids with the interest rates fixed by such bids.

Division 4 of the I.C.C. has authorized:

NEW YORK, CHICAGO & ST. LOUIS.—To issue a serial collateral note of \$3,750,000, to refinance the unpaid balance on a similar note issued July 29, 1947. The new note will be dated as of July 29, and will bear interest at 2.24 per cent. It will mature in 10 semiannual installments of \$375,000 each, beginning January 29, 1951, and will be issued to the Mellon National Bank & Trust Co., holder of the original note.

Dividends Declared

ATLANTIC COAST LINE.—\$1, payable December 12 to holders of record November 14.
LOUISVILLE & NASHVILLE.—88 cents, quarterly, payable December 12 to holders of record November 1.

RAILWAY OFFICERS

FINANCIAL, LEGAL & ACCOUNTING

Norman F. Crawford, general attorney of the CHESAPEAKE & OHIO, at Detroit, Mich., has retired after 30 years of continuous service in the law department of that road and the Pere Marquette (now C. & O.). C. H. Buzzard and E. H. Goodman, assistant general attorneys, have been advanced to general attorneys, and R. A. Straub, attorney, has been appointed assistant general attorney, with headquarters remaining at Detroit.

F. W. Tanneberger, assistant treasurer of the NEW YORK, ONTARIO & WESTERN, has been promoted to treasurer, with headquarters as before at New York, succeeding E. G. Taylor, who has retired at his own request after more than 47 years of railroad service, 13 of which have been as treasurer of the N.Y.O.&W. J. H. Lynch has been appointed assistant treasurer. Mr. Taylor was born at Rushford, N. Y., on January 4, 1880, and entered railroad service on April 27, 1903, as a messenger in the accounting department of the Buffalo, Rochester & Pittsburgh (now Baltimore & Ohio). He served until 1920 in various positions in the freight revenue department, freight claim department and on general accounts. Mr. Taylor was appointed special accountant in 1920 and chief accountant in

Fast Acting Fire Watchman



on duty 24 hours a day...

AT EACH FIRE HAZARD POINT

Let C-O-TWO safeguard your property from fire, even if you have a night watchman on duty. With a C-O-TWO Combination Smoke Detecting and Fire Extinguishing System you have an automatic, round-the-clock fire watchman that simultaneously guards each fire hazard point. The first trace of smoke in a protected area is drawn through pipes to a smoke detector. Immediately an alarm sounds... then fast, clean carbon dioxide gas fully floods the stricken area... the fire is out before it has a chance to spread and cause extensive damage.

Actual fire tests made by the Underwriters' Laboratories, Inc. show that fire detection with this type of smoke detecting equipment is much quicker than other methods... because usually there is smoke or smoldering before flames break out.

There is no water damage, no lingering odors with carbon dioxide... only damage is that actually caused by the fire itself. Carbon dioxide is clean, dry, non-conducting and non-damaging... harmless to finishes, materials and equipment. The fire is out in seconds, with hardly any interruption or commotion.

Remember fire doesn't wait... let an expert C-O-TWO Fire Protection Engineer advise you on your fire protection needs now, before fire strikes. Write today for complete free information!



C-O-TWO FIRE EQUIPMENT COMPANY

NEWARK 1 • NEW JERSEY

Sales and Service in the Principal Cities of United States and Canada
AFFILIATED WITH PYRENE MANUFACTURING COMPANY



1928, with the same road, becoming assistant treasurer in 1932 and comptroller in 1936 of the Railroad Credit Corporation at Washington, D.C. In August, 1937, he was appointed assistant treasurer of the N.Y.O.&W. at New York, becoming treasurer two months later.

The WESTERN PACIFIC has announced changes in the titles of **William G. Levy**, auditor of freight and passenger accounts at San Francisco, Cal., to auditor of revenues, and of **N. A. Schoeplein** and **V. W. Geddes**, assistant auditors of freight and passen-

ger accounts at that point, to assistant auditors of revenues. Their former positions have been abolished.

OPERATING

B. L. Lindley has been appointed superintendent of the ALAMEDA BELT LINE and the OAKLAND TERMINAL, succeeding **W. W. Dickman**, who has resigned to return to the service of the ATCHISON, TOPEKA & SANTA FE.

James P. Downey, assistant general manager of the New York City department of the RAILWAY EXPRESS

AGENCY, has been appointed general manager of the Allegheny department at Philadelphia, Pa., succeeding **R. C. Hendon**, resigned.

R. A. J. Morrison, superintendent of the Cumberland division of the BALTIMORE & OHIO at Cumberland, Md., has been appointed assistant general manager of the READING at Reading, Pa. **Chester T. Williams**, superintendent of the B.&O. at Pittsburgh, Pa., succeeds Mr. Morrison at Cumberland. **J. E. Maxwell**, superintendent of the B.&O. at Garrett, Ind., has been transferred to Akron, Ohio, to succeed **A. W. Colnot**, who succeeds Mr. Williams at Pittsburgh. **R. J. Cannon**, terminal superintendent of the B.&O. at Buffalo, N.Y., has been appointed superintendent at St. George, Staten Island, N.Y., succeeding **H. I. Walton**, who has been transferred to Garrett. **R. P. Bartlett**, trainmaster at Cumberland, has been appointed assistant superintendent at Grafton, W. Va., succeeding **J. H. Bradford**, who replaces Mr. Cannon as terminal superintendent at Buffalo.

TRAFFIC

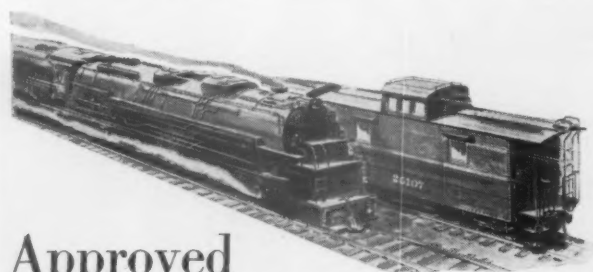
Roger W. Thweatt, assistant to the general coal traffic manager of the CHESAPEAKE & OHIO at Cleveland, Ohio, has been appointed general coal traffic agent at Richmond, Va. **Leo J. Schneider**, chief clerk, succeeds Mr. Thweatt as assistant to the general coal traffic manager at Cleveland.

Robert C. Courtney, division freight agent of the SOUTHERN at Memphis, Tenn., has been appointed assistant freight traffic manager at Raleigh, N. C., succeeding **James W. Lee**, who has been transferred to Cincinnati, Ohio. **William R. Briley**, commercial agent at New Orleans, La., has been appointed district freight and passenger agent at Shreveport, La., succeeding **Edgar W. Shirah**, who has been appointed division freight agent at Memphis, replacing Mr. Courtney.

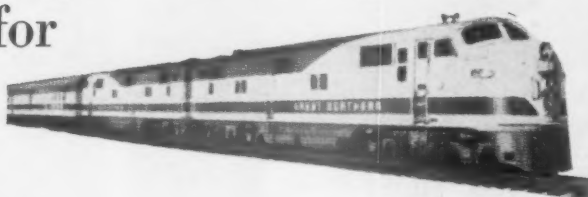
R. H. Duggan has been appointed general agent, freight department, of the WABASH at Milwaukee, Wis.

L. B. Freeman, assistant to the freight traffic manager of the GRAND TRUNK WESTERN at Chicago, has been appointed assistant general freight agent at that point, succeeding **Otto B. DuRand**, whose retirement was reported in the July 29 *Railway Age*. **J. M. Frank**, general agent at Philadelphia, Pa., succeeds Mr. Freeman.

Paul Wilson, who has been promoted to western traffic manager of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, with headquarters at Seattle, Wash., as reported in the September 23 *Railway Age*, was born in Butler, Mo., on June 20, 1890. He began his railroad career with the Chicago, Rock Island & Pacific, and subsequently served on the Chicago, Burlington & Quincy, the Great Northern, the North-



Approved Paper Water Cup Service for



Locomotives and Cabooses

In locomotive cabs, in cabooses . . . wherever train crews are stationed . . . the neat steel AERO® or AJAX® Dispenser with its clean, white paper cups comply with all regulations.

Aero and Ajax cups and dispensers are the ideal paper water cup service. Dispenser can be welded, riveted or bolted right to the bulkheads or partitions. Installed this way they're up to stay. No pilfering, no vibrating loose.

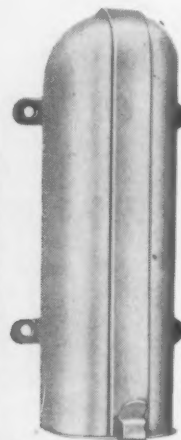
Our Engineering Department is ready to help you select the type of dispenser best suited to your use. No obligation, of course.



UNITED STATES ENVELOPE COMPANY

Paper Cup Division

WORCESTER 5, MASSACHUSETTS



Capped base, to protect the round AERO cups from dust, stays firmly in place by springed hinge and safety snap. It swings down easily when cups are wanted.



Open-mouthed AJAX Cups dispense one at a time from the narrow open end of this steel dispenser. AJAX Cups fit the hand — are easy to hold and use even on swiftly moving trains.

ern Pacific and the Union Pacific. Mr. Wilson joined the Milwaukee in July, 1911. In 1948, after serving in various positions, including assistant general freight agent, he was advanced to general freight agent. He held that position before his recent promotion.

Paul E. Flury, district freight agent of the SOUTHERN, has been appointed assistant general freight agent, with headquarters as before at Cincinnati, Ohio, succeeding **Charles H. O'Dowd**, deceased. **George H. Schneider**, commercial agent, succeeds Mr. Flury as district freight agent.

D. J. Rochford has been appointed assistant general freight agent of the WABASH at Buffalo, N.Y., succeeding **J. S. Buchanan**, deceased.

MECHANICAL

L. A. Dixon, assistant master mechanic, Fort Wayne division, of the PENNSYLVANIA, has been appointed acting master mechanic, Chicago division.

PURCHASES & STORES

As announced in the *Railway Age* of September 30, **Abram John Sowarby** has been appointed purchasing agent of the NEW YORK, ONTARIO & WESTERN at Middletown, N. Y. Mr. Sowarby was born on June 16, 1894, at New York, and was educated in the public grammar and high schools of that city. He entered the service of the N.Y.O.&W. in October, 1911, as a clerk in the motive power stores department at Middletown, resigning



Abram John Sowarby

in May, 1915, to return to New York. One year later he rejoined the road as clerk, in which capacity he remained until 1940, with the exception of time served in the United States Navy during World War I. In November, 1940, he became engine dispatcher and in April, 1942, was appointed shop clerk, later becoming assistant general storekeeper. Mr. Sowarby was appointed chief clerk of the purchasing department at New York in February, 1944, returning to Middletown as chief clerk when the purchasing and stores de-

partments were merged in May, 1949. He became supervisor of stores in November, 1949. Mr. Sowarby is the author of several articles which have appeared in *Railway Age*.

W. K. Smallridge, assistant general storekeeper of the NORTHERN PACIFIC, has been advanced to assistant purchasing agent at St. Paul, Minn. **H. J. Harms**, assistant to purchasing agent, has retired after 47 years of continuous service. Mr. Harms' former position has been abolished. Appointed to succeed Mr. Smallridge is **E. L. Jensen**. **F. E. Marvin** becomes district storekeeper at St. Paul.

Mr. Smallridge was born in Omaha, Neb., on November 29, 1904. He entered railroad service in 1923 as a messenger in the traffic department of the N. P. at Tacoma, Wash., holding various clerical positions in the operating and accounting departments until 1930. Subsequently he served as store helper and working foreman in the store department at Tacoma until 1934, when he was made locomotive crane engineer. Two years later he was advanced to general foreman, becoming assistant district storekeeper at Brainerd, Minn., in 1942. Mr. Smallridge was appointed material supervisor at St. Paul in 1943, and in 1947 was pro-



Here's Why

- 80% Thermal Efficiency
- 100% automatic
- Abolishes boiler room labor
- Uses oil or gas or a combination of oil and mixed, natural or propane gas
- No smoke—no soot
- Takes up 1/3 the space of conventional boilers
- Suitable for multiple installations
- Delivered complete ready for service connections

You save again and again with this fully modern steam producer. The compact AMESTEAM GENERATOR is completely automatic in operation and attains a fuel-saving thermal efficiency of over 80%. Many railroads are realizing substantial economies not only in their routine heating requirements but also for high pressure work such as car heating, sand drying, Diesel de-icing and cleaning, etc.

Single units from 10 to 500 H.P. Higher horsepower available on special order. Suitable for multiple installations. Design pressure—15 to 200 lbs. Higher pressures on order.

Delivered complete ready for service connections — including insulation and jacket.

Phone, write or wire

NO BOILER ROOM LABOR REQUIRED

Exclusive Distributors to the Railroads
Engineering, Sales and Service

RAILROAD SUPPLY and EQUIPMENT Inc.

148 ADAMS AVE., SCRANTON 3, PA.

Phone Scranton 2-3391

moted to assistant general storekeeper at that point.

C. A. G. Blomquist, assistant purchasing agent of the CENTRAL OF GEORGIA, has been appointed purchasing agent, with headquarters as before at Savannah, Ga., succeeding **G. W. Alexander**, whose death was reported in the *Railway Age* of October 14. The position of assistant purchasing agent has been abolished. Mr. Blomquist was born at Savannah, Ga., on June 6, 1891, and attended the public schools of Savannah and Georgia Institute of Technology. He studied book-keeping and accounting with the International Business Schools and accounting with the LaSalle Extension sys-

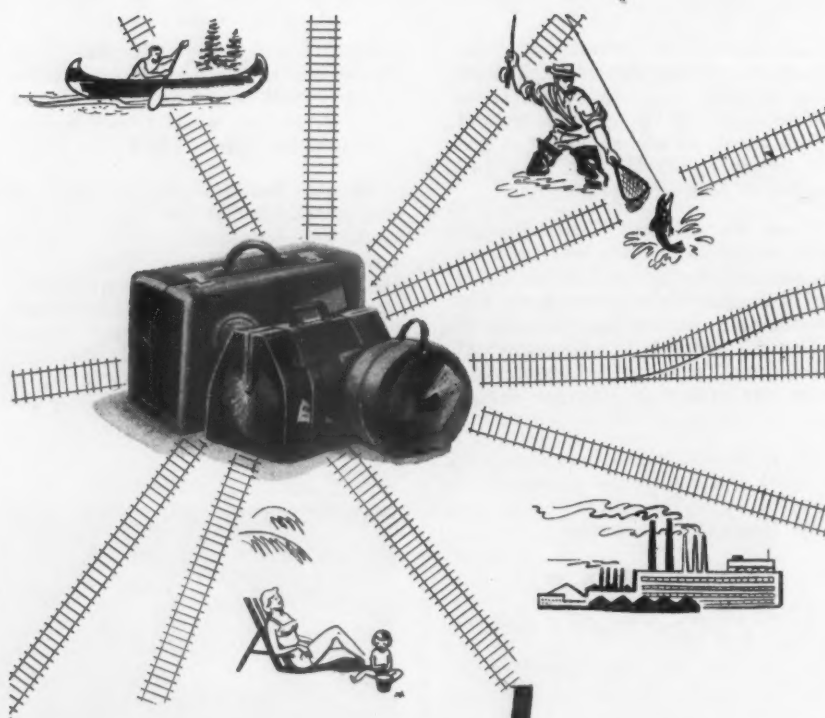


C. A. G. Blomquist

tem, later taking a course in business administration with the Alexander Hamilton Institute. Mr. Blomquist entered railroad service on September 6, 1911, with the C. of G., as a clerk in the general storehouse at Macon, Ga., transferring to the local freight agency at Savannah in March, 1912, and to the comptroller's office at Savannah in September, 1912. He was appointed traveling auditor at Savannah in July, 1914; stores accountant in July, 1917; chief clerk to purchasing agent in October 16, 1932, and assistant purchasing agent on January 16, 1948.

ENGINEERING & SIGNALING

Clifford G. Davis, whose promotion to assistant chief engineer of the KANSAS CITY SOUTHERN, with headquarters at Kansas City, Mo., was reported in the September 16 *Railway Age*, was born in Peterton, Kan., March 10, 1901, and received his B. S. degree in civil engineering from the University of Kansas in 1926. Mr. Davis started with the K. C. S. in July, 1918, after graduation from high school, as a chainman in the division engineer's office at Pittsburg, Kan. Subsequently he served as chainman, rodman and transitman at Pittsburg until September, 1941, except for the period between 1922 and 1926 when he



everywhere

THE PRINTING CALCULATOR CUTS

RAILROAD FIGURING COSTS

When costs are expanding . . . widen your profit margin with the Remington Rand *Printing Calculator*. Railroads everywhere have found that faster figuring—with proof on the printed tape—reduces office costs on a truly astonishing scale!

How? Through greater figure output per operator-hour. You make just one computation for each problem—no more re-runs or double checking. The evidence of accuracy is right there in black and white. And 10 key keyboard boosts figuring speed still more!

Use this all-purpose machine for *all* your figure work: extending waybills, prorating, cost analysis, payrolls, inventory, compiling accounting and tax records. You'll do it *faster* with the *Printing Calculator's* automatic division, direct multiplication, high speed addition and subtraction.

Send the coupon today for details on savings for you with the *Printing Calculator*.



Remington Rand

Business Machines and Supplies Division, Room 2084
315 Fourth Avenue, New York 10.

Please send me free calculator idea-booklet "Facts About Office Figures."

Name _____ Title _____

Road _____

Address _____

City _____ Zone _____ State _____

Remington Rand Inc.





railroads go

FOR *Electri-conomy* Typewriter SAVINGS IN RAILROAD TYPING

Yes, there's one operating cost that's really been cut way down. Railroads using the remarkable Remington *Electri-conomy* Typewriter score important office savings in every department!

Higher volume per typist-hour is the answer. Electrification banishes all the old wasteful time-eating typing operations. With the automatic carriage return alone, you can eliminate an average of 1000 manual motions a day!

The *Electri-conomy* gives you unsurpassed, automatically uniform printwork . . . plus up to 20 clear, legible carbon copies in one typing—for waybills, freight claim acknowledgments, pay voucher sheets, bills for collection . . . And switching to electric typing is so easy with this machine. The key arrangement and Speed Slope keyboard differ in no important way from your present typewriters.

Send the coupon today for brochure on *Electri-conomy* savings for railroads.

Make the *Electri-conomy* Test in Your Office Today!

Remington Rand

**Business Machines and Supplies Division, Room 1884
315 Fourth Avenue, New York 10.**

Please send me, without obligation, free copy of "*Electri-conomy*
Slashes Typing Costs for Railroads."

Please arrange free *Electri-conomy* Savings Test in my office.

Name _____ Title _____

Road _____ Address _____

City _____ Zone _____ State _____

Remington Rand Inc.

attended college. He was later advanced to assistant engineer, and in May, 1943, to engineer-roadmaster of the K. C. S. terminal division at Kan-



Clifford G. Davis

sas City. In June, 1945, he was appointed division engineer of the Chicago, Milwaukee, St. Paul & Pacific-K. C. S. joint agency at that point. Mr. Davis held the latter post before his recent promotion.

As announced in the *Railway Age* of September 30, **C. A. Colpitts** has been appointed engineer of track of the CANADIAN PACIFIC system at Montreal, Que. Mr. Colpitts was born at Winnipeg, Man., 43 years ago and was graduated in engineering from the University of Manitoba. He entered the service of the C.P. as an office boy in the Weston shops in 1925 and joined the engineering department on surveys



C. A. Colpitts

and locations in April, 1926. He took up permanent work after university graduation and served in various capacities, including that of roadmaster. In December, 1941, Mr. Colpitts became division engineer at Saskatoon, Sask., transferring to Vancouver, B. C., in 1944. In May, 1949, he was appointed assistant district engineer and was promoted to district engineer of the British Columbia district at Vancouver on February 1, 1950.

Current Publications

PERIODICAL ARTICLES

Our Roads Are Going to Pot, by Myron Stearns. *Harper's Magazine*, September, 1950, pp. 34-37. Published by Harper & Bros., 49 E. 33rd st., New York 16. Single copies, 50 cents.

With the nation's \$50-billion highway system crumbling under the wheels of excessive traffic loads, America must face the fact that our motorized civilization can be maintained only at a gigantic price in tax dollars that is not being paid today. That is the conclusion drawn by Mr. Stearns. Charging that the country's once-magnificent highway plant is disintegrating faster than it can be repaired, he cites estimates of state highway commissioners that \$41,144,630,620 is "needed at once" for repairs and improvements on paved roads. Blame for rapid deterioration of highways is placed by the author chiefly on the greatly expanded use of heavy trucks. Pointing out that between 1929 and 1949 truck mileage rose from 12 billion to 45 billion and loads rose from 14 billion to more than 100 billion ton-miles, Mr. Stearns explains "loads that are no more than half what a concrete highway can carry do little damage; if they are more than that, the pavement wears only one-tenth as long." As a major contribution to direly needed highway funds, he urges much higher taxes for truck operators; to prevent further needless and wasteful destruction of highways he urges, as one major measure, that laws regu-

lating truck weights be stringently enforced in all states; and finally, he urges, higher gasoline taxes. "To raise gasoline taxes is always unpopular," the author points out, "but the logic of the situation calls for steep increases somewhere, and a sharply higher gasoline tax seems one good answer. It will hurt."

Short Line Railroads of Yesterday, by Renwick K. Caldwell. *Vermont Life*, autumn, 1950, pp. 14-21; illustrations; map. Published by Vermont Development Commission, Montpelier, Vt. Single copies, 35 cents.

A readable and well illustrated account of some of the now defunct short-line railroads whose whistles once echoed through the hills and valleys of the Green Mountain state. A good half of the text is devoted to the almost legendary West River. Other roads whose history is reviewed more briefly include the Woodstock; the 0.59-mi. Fairgrounds; the White River; the Bristol; the Hardwick & Woodbury—which boasted a seven per cent grade; the Bennington & Glastonbury, and the Manchester, Dorset & Granville. A superb color photograph of a still-very-much-alive St. Johnsbury & Lamoille County train climbing Walden hill serves as frontispiece for the article.

Along the Right-of-Way. *Fortune*, September, 1950, pp. 106-113. Published by Time, Inc., 540 N. Michigan ave., Chicago 11. Single copies, \$1.25.

Seven photographs by Walker Evans of

middle-western and eastern landscapes seen through train windows. They are titled: From the Sunday a.m. local, winding through New Jersey factory towns; rolling into Chicago—loading docks along the Central's tracks; gathering speed on a flat straightaway through midwest farmlands; approaching Pittsburgh—Saturday afternoon beside the Pennsy's roadbed; past a Connecticut landmark—curving through Bridgeport, Shore line; through the citadels of steel production—Pennsylvania landscape; and No. 24, 15 minutes late, pulling out of Greensburg. Some are in color and some in black and white.

BOOKS

Scottish Railways, by O. S. Nock. 214 pages, colored and black and white illustrations. Published by Thomas Nelson & Sons, Ltd., Parkside Works, Edinburgh 9, Scotland. 18 shillings.

This book offers a comprehensive account of the railways of Scotland from the time of their construction to the present day. The chapters fall conveniently into sections—historical, general (operation, scenic routes, auxiliary enterprises, etc.), civil engineering, mechanical engineering and locomotives. The details of some of the great Scottish locomotive performances are set out in tabular form in an appendix. A number of colored car and locomotive plates are included.

American Locomotives, 1871-1881, edited by Grahame Hardy and Paul Darrell. Published by Grahame Hardy, 2046 E. 14th st., Oakland 6, Cal. Personalized edition, \$35; limited edition, \$17.50.

This handsomely-produced book is a collection of locomotive drawings and plans with descriptions, specifications and details, originally published in 1883 under the title "Recent Locomotives" by the Railroad Gazette Publishing Company, New York.

The reprint is an exact replica of the original, excepting the European section, which has been omitted. In lieu of this a 16-page appendix has been added, consisting of line drawings of locomotives taken from Forney's Catechism of the Locomotive, published in the 1870's, and scale model plans made by Captain Frederic Shaw. These include a narrow-gauge 2-4-0, the Grizzly Flats' famous "Emma Nevada" and the Virginia & Truckee's 4-4-0, "Reno." The book is further embellished by the work of E. S. Hammack, who made a pictorial title page and decorations not included in the original volume.

The Railroad Gazette was a predecessor of the present *Railway Age* and M. N. Forney was its owner and publisher at the time the original books mentioned were printed.

PAMPHLETS

Look What's Attached to Your Pullman Ticket! (20-page booklet); *Here's What You Get When You Go Pullman* (folder). Published by the Pullman Company, Merchandise Mart Plaza, Chicago 54.

Whether planning for an overnight trip or a cross-country junket, both the booklet and the folder answer in detail many of the

This is under no circumstances to be construed as an offering of these securities for sale, or as an offer to buy, or as a solicitation of an offer to buy, any of such securities. The offer is made only by means of the Prospectus.

160,000 Shares

STANDARD RAILWAY EQUIPMENT MANUFACTURING COMPANY

Common Stock

(Par Value \$1 Per Share)

Price \$15.75 per share

Copies of the Prospectus may be obtained from the undersigned only in those States in which the undersigned may legally offer these securities in compliance with the securities laws of the respective States.

Smith, Barney & Co.

The Illinois Company

October 18, 1950

Railway INSULMAT

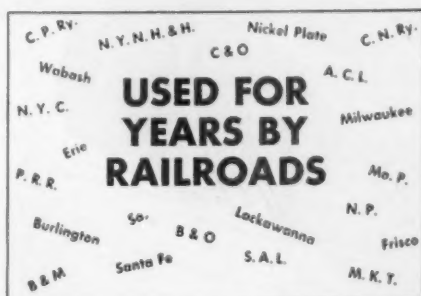
**The remarkably effective
3-PURPOSE COATING
that Saves Railroads
Thousands of Dollars every year**

- Deadens Sound
- Kills Vibration Noises
- Protects Metal against Rust and Corrosion
- Prevents Condensation Drip and Resulting Damage to Freight
- Prevents Saturation of all types of Insulation Products
- Used as a Ceiling Finish instead of Plywood—it costs less and is better

Applied with spray gun to ceilings and side walls of freight, passenger and refrigerator cars and cabooses.



Railway Insulmat being applied to the inverted ceiling of a California Zephyr car.



It will pay you to investigate this tried and true product — RAILWAY INSULMAT. Send for circular today.

J. W. MORTELL CO.
Technical Coatings since 1895
563 Burch St., Kankakee, Ill.

questions that occur to the average traveler as he prepares for his journey. In addition to illustrating the various accommodations, they also list 29 conveniences, comforts and personal services offered to the traveler who goes Pullman. The 20-page two-color booklet is equivalent to a handy personal reference containing a price comparison for the various types of Pullman accommodations, based on the average cost of an overnight trip of 300 miles. This comparison was made to acquaint inexperienced travelers with the actual cost of Pullman space units. The accordion-type folder, designed for mass circulation to the traveling public, contains a great deal of the information that has been written into the booklet. Its theme is a little different, however, in that it tells "what you get when you go Pullman." Declaring that Pullman represents "railroad travel at its best," the folder underlines the company's policy of comfort, dependability and safety. It also features illustrations of the 14 available types of accommodations, ranging from the upper berth to the drawing room. Tips on things that a rail traveler should consider in mapping his trip also are included. How to make a Pullman reservation, how much baggage to take, how to plan for meals, how to bring the baby, and how to keep well groomed enroute are some of the items covered.

Railroad Humor. 16 pages, illustrations. Compiled by the Public Relations department, St. Louis Southwestern, Cotton Belt bldg., St. Louis 2, Mo. Free.

A collection of cartoon humor with a railroad flavor.

Statistics of Class I Motor Carriers for the Year Ended December 31, 1948. 87 pages. Prepared by Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Available from the Government Printing Office, Washington 25, D. C. 70 cents.

Contains financial and operating statistics of motor carriers of property and motor carriers of passengers filing reports with the I.C.C.

Subsidies to Transportation, by Burton N. Behling. 59 pages. Public Affairs Bulletin No. 86, August, 1950. Issued by Library of Congress, Card division, Washington 25, D. C. 40 cents.

This study on transportation subsidies was made by Dr. Behling for the Legislative Reference Service at the request of Senator John J. Williams. Its publication is timely because of growing interest in the matters considered and because of current efforts to reappraise various expenditure programs of the federal government in the light of recent developments necessitating increased outlays for national defense. The principal circumstances regarding problems of transportation subsidy are presented but, in accordance with the policy of the L.R.S., recommendations are not made. After briefly summarizing the problem, Dr. Behling discusses existing circumstances with respect to each of the transport promotional activities and aids, and where possible, has indicated the extent of the subsidies involved. (See also *Railway Age* of September 30, page 56.)



Ready and Willing

● Take any Erie passenger train crew and you run into as nice a bunch of people as you'll find anywhere. It's an Erie tradition that every passenger gets as full a share of courtesy and attention, even to the extent of little special services. Watch any of our Erie people handle passengers with families and you will know what we mean!

In an Erie diner, you get snowy linen, sparkling silver and glassware, and tasty food—all that contributes to making a meal or snack enjoyable. But above all, you will find that Erie waiters treat passengers with real good manners.

Route your customers for friendly service by the Erie. Comfortable, dependable travel at its best.

NEW ALL-ROOM PULLMAN SERVICE ON THE FOLLOWING DIESEL-POWERED TRAINS:

Trains Nos. 1 and 2—*The Erie Limited*—between New York and Chicago; also set-in sleeper at Youngstown and Akron on Train No. 1

Trains Nos. 5 and 6—*The Lake Cities*—between New York, Cleveland and Chicago

Train No. 8—*The Atlantic Express*—from Chicago to Akron and Meadville; Akron sleeper is set-out for occupancy until 8:00 a.m.

(Trains are also equipped with the most modern, air-conditioned coaches and diner-lounge cars.)



For extra protection
of your
"extra-fare" freight

SCULLIN  TRUCKS

the
smoothest
traffic-builder
between
LCL
and
your
rails!

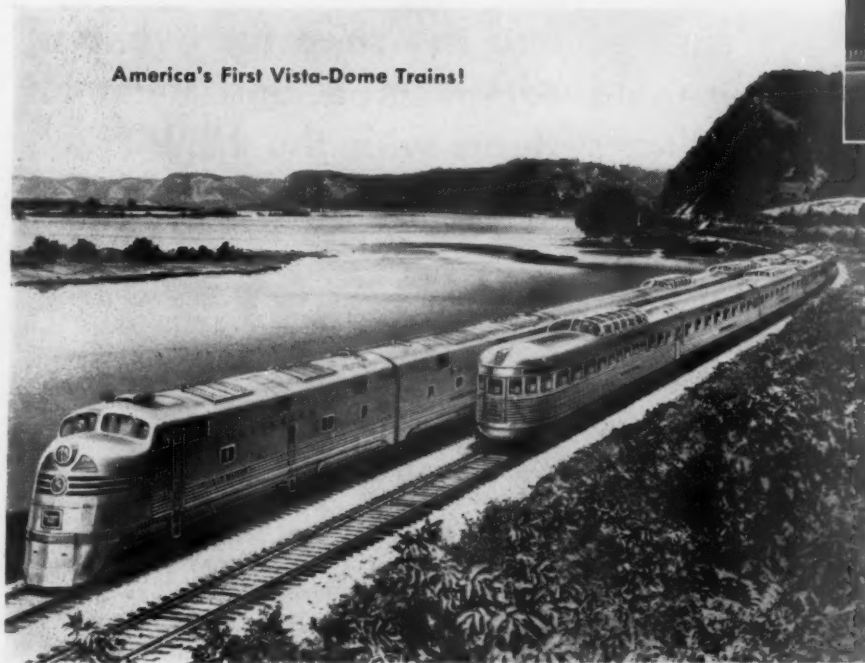


SCULLIN STEEL CO.
SAINT LOUIS 10, MISSOURI

NEW YORK • CHICAGO • CLEVELAND • BALTIMORE • RICHMOND, VA. • MEXICO CITY, D. F.

Burlington Milestones in Passenger Progress!

America's First Vista-Dome Trains!



TODAY, as ever, the Burlington is receptive to sound new ideas. For the Burlington feels that traveling America will recognize good service and reward the railroad which provides it.

Now and in the future... look to the Burlington for *Passenger Progress*.



America's First Stainless Steel
Gallery Suburban Cars!



America's First Diesel-Powered
Streamlined Train!

▲ Sixteen years ago, the Burlington Pioneer Zephyr entered regular service... and introduced a glorious new era of comfort, convenience and speed on American railroads.

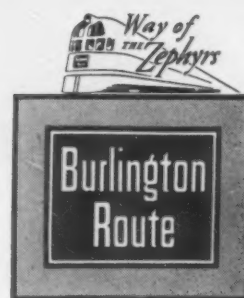
◀ In 1945, Burlington created the first Vista-Dome car to test public reaction to this General Motors idea... then thrilled traveling America with the Vista-Dome Twin Cities Zephyrs and later with the Vista-Dome California Zephyr (operated in cooperation with Rio Grande and Western Pacific).

The Burlington's new streamlined, air-conditioned gallery cars, each seating 148 passengers, set a new standard in ▼ comfortable suburban service.

BURLINGTON LINES

Everywhere West

Chicago, Burlington & Quincy Railroad • Colorado and Southern Railway
Fort Worth and Denver City Railway • The Wichita Valley Railway



Don't waste steam!

(It Costs Money)

As the cars go thru the shop for overhaul
replace old complicated and wasteful
heating systems with the NEW...

ECONOMY CAR Heating System

It Pays for Itself With Savings Up to 40%

ECONOMY! This new Economy Car Heating System with Electronic Moduflow is your best answer to low cost car heating for new trains and older trains, alike. The first cost is less than half the cost of ordinary systems (\$888,000 F.O.B. Mpls.). Operating costs are lower, offering savings in steam as high as 40%. Less maintenance is required due to simplicity of design. You save money during every mile of operation.

SIMPLICITY! The new Honeywell system has fewer components. Only a few feet of undercar piping are required. Just one reducing valve is required per car.—Just one operating valve per car.—And the simplest control panel you've ever seen. Standby operation, without circulators, without electricity, is the safest and simplest yet. You'll get superior comfort, too! Get the full story of Honeywell's new Economy Car Heating System without delay. Write: Transportation Division, Minneapolis-Honeywell, Minneapolis 8, Minnesota. In Canada: Toronto 17, Ontario.



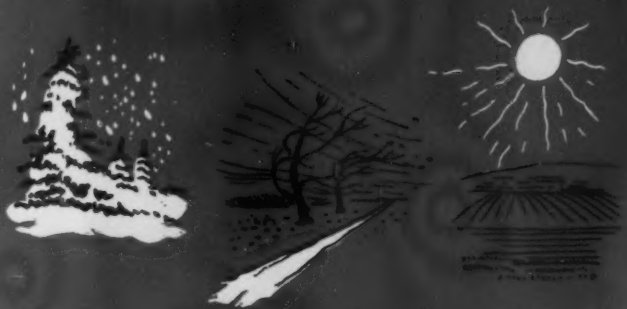
**Dependable Controls
Cost Less Than Service**

MINNEAPOLIS
Honeywell

TRANSPORTATION DIVISION
Serving the Railroad Industry

EDWARDS DOUBLE GLAZED SASH FOR CONSTANT, BRILLIANT VISIBILITY

IN ALL SEASONS



CLIMATES



ALTITUDES



EDWARDS double glazed, double sealed, dehydrated units may be mounted in two general types of aluminum, bronze or stainless steel sash frames for installation in the window opening.

The first of these designs, generally used up to this time, is the double metal frame type requiring complete removal from the car opening and disassembly of the two frames whenever glass replacement must be made.

The second is an improved design recently developed and being introduced by EDWARDS. It permits quick, easy replacement of the double glazed unit by unskilled workmen without the use of tools. No removal or disturbance of the sash frames is necessary. Replacement expense, unavoidable with the double frame type, is greatly reduced.

For complete, detailed information on the different types of double glazed units and various designs of sash frames, write us.

THE O. M. EDWARDS CO., INC., SYRACUSE, N.Y.
New York Office — 50 Church St., N.Y.C.

In Canada: O. M. EDWARDS CO. OF CANADA LIMITED
Offices and Plant
4000 NAMUR ST., MONTREAL 16

EDWARDS SASH
THE EYES OF TRANSPORTATION



SASH FOR EVERY TYPE OF TRANSPORTATION—ON LAND, ON THE SEAS, IN THE AIR



Taken at Youngstown, Ohio.

LIMA-HAMILTON SWITCHERS

...on the

ERIE

"Sixteen of our locomotives are Lima-Hamilton diesel-electrics. These switchers are performing satisfactorily and are producing savings in operations and maintenance . . ."

says the Erie



LIMA-HAMILTON CORPORATION

LIMA, OHIO

Lima Locomotive Works Division

How many railroads own this train?

As high as 83% of operated cars are foreign — another reason why railroads standardize on SOLID JOURNAL BEARINGS.

A recent study of 6 roads—picked at random—proved that out of every 100 freight cars operated, *from 55% to 83% were foreign!* Think of the resulting interchange problem. Service and maintenance require a tremendous degree of standardization when 8 out of 10 cars belong to other roads. *Free interchange is another basic reason why railroads have so completely standardized on the Solid Journal Bearing . . . for simple, fast, economical maintenance and inspection.* Performance? The performance records of Solid Journal Bearings speak for themselves—with as high as *6½ Million bearing miles per car set-out!* These performance records are unequalled—and they're constantly being improved. Year after year shows a steady increase in speeds, loading and daily car mileage.

That's why railroads will continue to find the answer to dependability, ease of maintenance, operating economy and free interchange in the Solid Journal Bearing.



National Bearing Division . . . Serving America's Railroads since 1874 with a complete line of Journal Bearings, Engine Bearings and Bronze Parts.

AMERICAN

Brake Shoe

COMPANY

NATIONAL BEARING DIVISION

4937 Manchester Avenue • St. Louis 10, Mo.

PLANTS IN: ST. LOUIS, MO. • MEADVILLE, PA. • NILES, OHIO • PORTSMOUTH, VA. • ST. PAUL, MINN. • CHICAGO, ILL.

October 28, 1950

197



in The **NILES**

RINGLOX Vacuum-Tight DOPE DRUM

● That's the way journal packing should be—free from dirt, dust, water, and other foreign matter—and that's the way it always stays in the NILES Dope Drum.

The patented Ringlox closure is vacuum-tight—easy to open—easy to close. A take-up bolt compensates for wear and shrinkage—insures a tight closure throughout the years of service in the storage and shipment of journal packing. Write for details.



★ ★ ★
Just push the handle to open—or pull it to close. No tools required with the NILES Ringlox Vacuum-Tight Drum.

**NILES STEEL PRODUCTS DIVISION
REPUBLIC STEEL CORPORATION
NILES, OHIO**

NILES

METAL BARRELS AND DRUMS



Tuco **PRODUCTS**

TUCOLITH COMPOSITION FLOORING

Service records of many years on many thousand cars of all railroads. Keeps pace with new car design

DOREX ODOR ADSORBER PANELS

Now insuring good air quality on over 2000 cars in service and specified

TUCO Trap Doors
TUCO Treated Canvas
TUCO-Seal Tape and Fabric
TUCO Preservative

TUCO PRODUCTS CORPORATION

30 Church St. 122 S. Michigan Ave.
New York 7, N. Y. Chicago 3, ILL.

DEARBORN WHEEL GRINDING BRAKE SHOES

Quickly restore wheels to original contour while in service



BEFORE



AFTER

A WHEEL CONTROL SERVICE you cannot afford to miss. DEARBORN WHEEL GRINDING BRAKE SHOES do a complete wheel or tire grinding operation while car or locomotive continues in service. Each order custom designed to suit individual requirements. In successful use on steam, Diesel, and electric locomotives, passenger and freight rolling stock, and street railway cars. Write for circular.

DEARBORN RAILWAY SPECIALTY

Company

13011 FORD ROAD DEARBORN, MICHIGAN

NOW

3^{ELECTRIFIED} Streamliners

In service every day—FORT CRÈVECOEUR . . . MOUND CITY . . . SANGAMON . . . each way between East Peoria, Lincoln, Springfield, Carlinville, Edwardsville, Granite City, Illinois, and St. Louis, Missouri.

On these sleek "Streamliners" will be found every comfort for daytime travel. Comfortable day coaches. Seats, deep-cushioned, with adjustable backs. Large sight-seeing windows. Observation reserved seat coaches (all seats reserved) with reclining-revolving chairs. Delicious food served "Illinois Terminal" style. Dignified service in air-conditioned comfort.

This streamlined fleet is ready to speed you to your destination in safety and comfort. Ride these gleaming beauties.

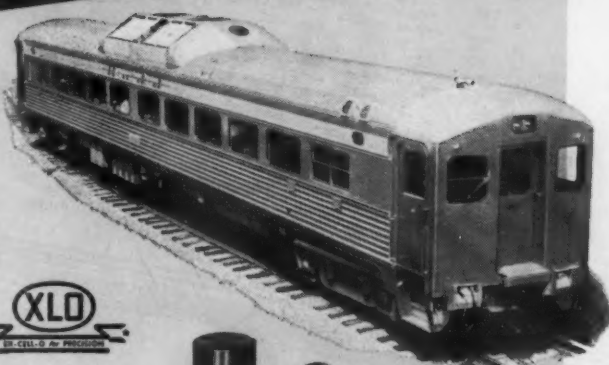
Luxury Travel AT NO EXTRA FARE!

Illinois Terminal



GOING PLACES . . .

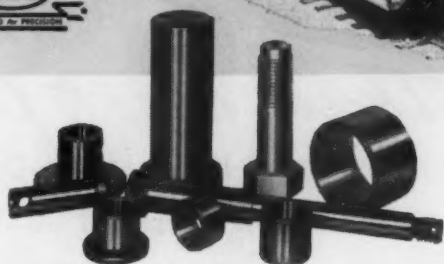
**BUDD RAIL DIESEL CARS WITH
PINS AND BUSHINGS BY EX-CELL-O**



An outstanding feature of the new Budd RDC Rail Diesel Car is the Budd disc brake. By eliminating direct wheel contact, this brake increases wheel life; decreases maintenance.

Ex-Cell-O pins and bushings are used throughout the Budd disc brakes on the RDC. The choice was a natural one—for Ex-Cell-O pins and bushings consistently wear better; last longer. Records of more than a million miles of service between shoppings are not unusual.

For your new or reconditioned equipment, standardize on Ex-Cell-O pins and bushings. Sizes for steam and Diesel equipment are listed in Ex-Cell-O Catalog 32381. For your free copy, write Ex-Cell-O Corporation today on your company letterhead.



Railroad Division

EX-CELL-O CORPORATION

DETROIT 32, MICHIGAN

50-33

HOW MANY of these articles



Partial Bibliography — Railway Passenger Service Articles

Article Title	Issue	Page
*Passenger Car High Spots of 1949	Jan. 7, 170	
*Carriage of Persons—Business or Philanthropy?	Jan. 7, 182	
*Passenger-Train Cars Ordered in 1949	Jan. 7, 230	
1949 Was "Biggest" Year for Air Lines	Jan. 7, 264	
Revises Cut in Coal-Burning Passenger Locomotive Mileage	Jan. 14, 155	
C. & O. to Cut Off Diners to Conserve Coal	Jan. 21, 190	
*Economy in Interline Ticket Accounting	Jan. 28, 224	
RR Advertising Men Told How S. F. Slashed Timetable Costs	Feb. 4, 277	
P. R. R. Tries One-Entree Meals on "Jeffersonian"	Feb. 4, 278	
I. C. C. Suspends Proposed Ticket Redemption Changes	Feb. 11, 301	
*Chicago Roads Repeat "No" to South Side Union Station Plans	Feb. 18, 338	
*Railroads Find New Uses for Reflective Material	Feb. 18, 347	
*The Southern Pacific Bites Back—in a nice way—at the competition	Feb. 18, 365	
Test Budd Diesel Rail Car on North Western Suburban Lines	Feb. 25, 402	
*Principles of Radiant Heating for Comfort in Passenger Cars	Feb. 25, 409	
Urge Repeal of Freight and Passenger Taxes	Mar. 4, 425	
*What Really Happened on the Long Island? (Editorial)	Mar. 4, 425	
*Brass Tacks for Pullman Men	Mar. 11, 513	
*A Report to the Industry—Steamliners Earn More Than Ever	Mar. 18, 534	
Lets Jersey Roads Raise Commuter Fares	Mar. 18, 564	
*Aluminum Sleeping Cars for Three Roads Announced by P. R. R.	Mar. 25, 594	
Cleaning Filters for Air-Conditioned Coaches	Mar. 25, 622	
Bangor & Aroostook Publishes "Travel Talks"	Apr. 1, 638	
*Budd Builds Six-Car "Blue Bird" for Wabash	Apr. 1, 661	
C. & O. and Pullman-Standard Working Jointly on "Train X"	Apr. 8, 606	
*Several Passenger Stations Sold by the New Haven	Apr. 8, 698	
*"Fly-By-Day" Air Lines Encroach on Existing Carriers' Traffic	Apr. 8, 704	
"Gay Nineties" Decor for "Red Cap" "Chief"	Apr. 8, 706	
Approves 25-Cent Charge for Passenger Service	Apr. 15, 749	
Unions' Symes Demands Endanger Jobs	Apr. 22, 782	
Show How Air Lines Live on Subsidies	Apr. 29, 849	
*Highlights of the Railroad Situation	Apr. 29, 849	
P. R. R. Cuts Service Charge on New Sleepers Installed on Trains	May 6, 871	
Serving South (Editorial)	May 13, 902	
*How Safe Can a Railroad Be?	May 13, 910	
*On-Time Timetables in Concession Revenue	May 13, 928	
Erie's One-Cent Return Fare Increases Passenger "Golden State" to Faster	May 13, 931	
Accommodate Twin Cities	May 13, 931	
1949 Passenger Service Deficit Was \$649 Million	May 27, 1007	
North Shore Launches Electric "Silverliner"	May 27, 1054	
N. H. to Run Deluxe Trains for Harvard-Yale Races	May 27, 1058	
*Pullman Remodels Heavyweight Sleeping Cars	June 3, 1090	
C. & O. Reinstates Tipping	June 3, 1100	
*Modern Motif Is Feature of New Station Court Bans Race Separation in Pioneer	June 10, 1130	
*"Pantry Prowlers" Invited to Pioneer Limited's Diner	June 10, 1143	
United Air Lines Questions Air Coach Economics	June 10, 1149	
*Shippers and Unprofitable Passenger Service (Editorial)	June 17, 1165	
Western Union "Charge It" Plan Begins for Rail Passengers	June 17, 1203	
Survey Shows RRs Receive 25% of Vacation Travel Expenses	June 17, 1205	
*A Systematic Station-Modernization Program	June 24, 1234	
*Lehigh Valley Cuts Breakfast Losses on Diners	June 24, 1241	
Condemns Preferred Passenger Lists	June 24, 1259	
*New Passenger Trains on Great Northern	July 1, 48	
*Electronic Reservation System on the Pennsylvania	July 8, 36	
*Railroads More 38,000 Boy Scouts To and From Valley Forge "Jamboree"	July 15, 48	
Approves Service Charge for Redemption of Tickets	July 22, 46	
Approves Commutation-Fare Increases in Eastern Areas	July 22, 47	
*Time to Begin Conserving Our Transportation Resources (Editorial)	July 29, 11	
*The Great in Great Northern	Aug. 5, 40	
*Air-Conditioned M. U. Cars for Commuter Trains	Aug. 5, 47	
Advices I. C. C. to Leave Bus Fare Structure Undisturbed	Aug. 5, 60	
Roads Plan New Service for Seattle-Portland Run	Aug. 12, 65	
P. R. R. Trying Out New U. S. & S. Space-Sale System	Aug. 12, 65	
Safety Glass Proves Value in Long Island Derailment	Aug. 12, 69	
*Shortage of Passenger Cars? (Editorial)	Aug. 19, 28	
*Southern Pacific Service "Cascade"	Aug. 19, 49	
Streamliner Cards Dropped by 21 Additional Roads	Aug. 26, 29	
*New "Sunset Limited" on Southern Pacific	Sept. 9, 57	
*Passenger Development—Long Range Sales	Sept. 9, 85	
*Pennsylvania Installs Train-Space System at Cleveland	Sept. 9, 72	
*System at Authority Predicts Big Gains in Air Traffic	Sept. 9, 76	
N. Y. Port Authority Predicts Big New Haven Sells New Accident Insurance	Sept. 23, 20	
*Air-Conditioning Misconceptions (Editorial)	Sept. 23, 21	
*Traffic Promotion When Traffic Is Heavy? (Editorial)	Sept. 23, 26	
*Checklist for Success—"Shasta Daylight" Shippers Criticize I. C. C.; Ignore Passenger Losses	Sept. 23, 42	
Toledo Goes Wild Over New Station C. & N. W. Denied Suburban Fare Boost	Sept. 30, 41	
	Sept. 30, 60	

***Feature Articles**

There's More to Come!
Keep Up-to-Date with
your own Personal Subscription

have you clipped and filed on railway passenger service?

A glance at the opposite page shows valuable material which should be a part of the working kit of every railway passenger officer on the railroads today. How many of these articles have you seen? How many have you clipped and filed for ready future reference? If you're typical of the professional railroader whose job is developing the passenger side of the railway's business, you've got 'em all right where you can quickly lay your hands on them.

And this is *only a partial list* of *Railway Age* passenger service material published this year. Week after week, *Railway Age* keeps you up-to-date with such information as

- reports on the design and facilities of new passenger stations and improvements of old stations;
- proceedings of the various associations that affect passenger operations;
- reports of new trains put on—and important changes in schedules and equipment;
- special devices for developing business, such as student tours, ski trains, husking bees, and other special trains;
- all aspects of competition;
- full details of latest streamliners

(*Railway Age* has featured prominently details of every streamliner since 1934);

—public relations and safety.

Of great importance to every career-minded railroad man is the all-around railway information *Railway Age* places in his hands every week! By regularly reading *your own copy* of *Railway Age*, you, too, can keep right up to the minute on what's going on—not only in the passenger department but in all of them—freight . . . operating . . . signaling . . . engineering . . . legal . . . finance, etc.—information that will result in better railroading practice. The weekly news pages will keep you abreast of late developments in Washington—developments which may affect *your job*.

All this—roughly 5,000 pages a year (including the valuable advertising pages)—constitutes a working cyclopedia of current railway history and developments . . . usable information which can be yours to read, study and refer to when, as and where you want it . . . for only a few cents a week!

If you are not yet a subscriber, why not enter *your personal subscription order* to *Railway Age* today? A convenient postage-paid order card has been inserted elsewhere in this issue.

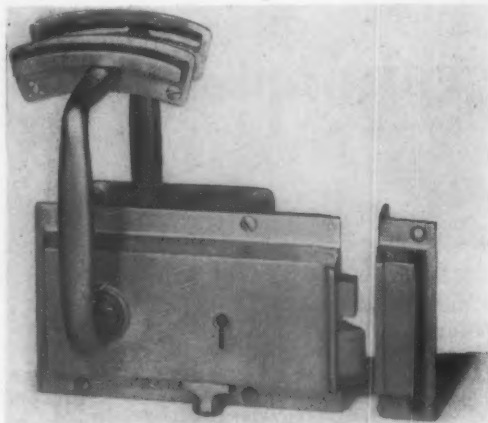
RAILWAY AGE



A personal subscription to *Railway Age* is the best bargain available to the professional railroader with a serious concern in his work—and his future. Enter *your order* today!

HOWARD

Railway Car Hardware



No. 1965 End Door Lock

Door locks, sash locks, cabinet latches, hinges, sliding door tracks and hangers, towel racks, miscellaneous standard and special car hardware.

Special fittings designed to order; application drawings for standard parts furnished.

JAMES L. HOWARD & COMPANY
438 Asylum St. Hartford 1, Conn.

DOUBLE TRUNNION

DOUBLE FULCRUM

RAIL CARS
MINE CARS
AND
LOCOMOTIVES

AXLESS TRAINS

COMPLETE
HAULAGE SYSTEMS

SAFE STABLE SIMPLE

DUMPS EITHER SIDE

DIFFERENTIAL STEEL CAR CO.
FINDLAY, OHIO

HYMAN-MICHAELS COMPANY

Relaying Rails ★★★ Dismantling

Used railroad equipment—cars—locomotives
Freight Car Replacement Parts
Complete stocks of guaranteed used freight car parts carried on hand by us at all times. Located conveniently for shipment to any part of the country. Write—Phone—Car or Track Dismantling, or Car Parts.

Main Office
122 SOUTH MICHIGAN AVENUE
CHICAGO, ILLINOIS

Branches
Wire—when interested in used Rails, Equipment, Cars,
St. Louis Los Angeles Havana, Cuba
New York San Francisco Houston
SERVICE QUALITY RELIABILITY

COMPLETE MATERIALS HANDLING SERVICE for RAILROADS . . . All Needs, All Applications



RAIL-O-ROAD KRANE KAR

For ON and OFF the Tracks

Equipped with both FLANGED wheels for service on tracks and RUBBER TIRED wheels for operation on paved or dirt road.



KRANE KAR

Swing-Boom Mobile Crane

One to 10 ton cap., 9 to 37 ft. booms or telescopic booms, solid or pneumatic rubber tires, gasoline or Diesel.

KRANE KAR lifts, transports, and spots the loads, handling them at the sides as well as at the front. Use KRANE KAR for lifting and transporting ties, frogs, switches, rails, wheels and axles . . . for rip track work . . . for maintenance of way and track repairs . . . for locomotive stalls, car repair shops and other maintenance chores . . . and for stores materials handling. Available with electric magnet and clamshell bucket. Ask for Bulletin No. 69 on KRANE KAR and Bulletin No. 68 on RAIL-O-ROAD KRANE KAR.

USERS: AT&SF, CB&Q, BIG FOUR, B&O, PRR, CP, C&O, MP, CMSI, P&P, etc.

Agents in all the principal cities.

SILENT HOIST & CRANE CO.

847 63rd St., BROOKLYN 20, N. Y.

SEALTITE ESSENTIAL PRODUCTS



PRODUCTS ILLUSTRATED

(from top to bottom)

Sealtite Car Bolt
Sealtite Lag Screw
Loktite Nut
Sealtite Guard Rail Bolt
Sealtite Timber Bolt
Sealtite Hook Bolt
Sealtite Washer Nut

Double-Life FINISH—
Sealed in Zinc—Actual service tests reveal distinct economies are effected by specifying Sealtite Essential Products with Double-Life Hot-Dipped, sealed in zinc finish. Corrosion is retarded—

the fasteners have much longer life and expensive replacements are eliminated. Protect your investment—specify Hot-Dipped Galvanized—Sealed in zinc.

LEWIS BOLT & NUT CO.
MINNEAPOLIS, MINNESOTA

Serving 72% OF AMERICA'S
CLASS I RAILWAYS

Equipped
TO SERVE MAINE...



... and
THE NATION

The Maine Central today is in better condition than ever before to serve the needs of the public.

Our passenger trains are 71.5% dieselized. 95 miles of roadbed have been reballasted, and new, heavier rails and treated ties have been installed wherever necessary. Modern color light automatic block signals replacing semaphore signals have been installed, with a resulting increase in safety and speed of trains.

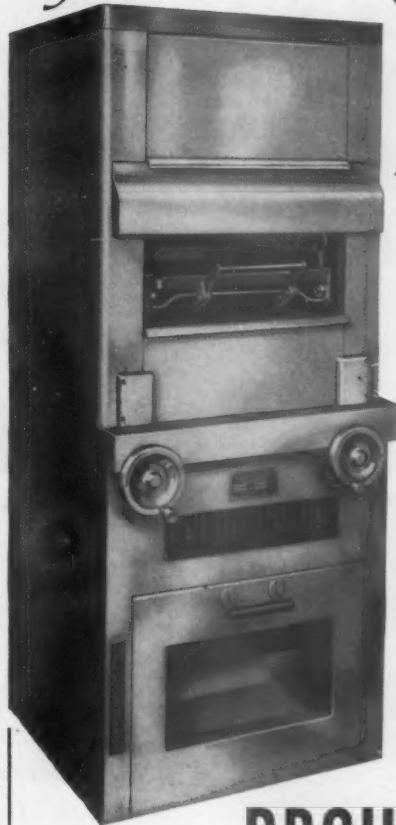
We are ready to handle increased passenger traffic and to meet the demands that our national preparedness program will bring.



**MAINE CENTRAL
RAILROAD**

October 28, 1950

Your ticket to *Faster,
Quicker
Meals*



Currently in use by
Boston and Maine,
New York, New
Haven and Hart-
ford, Pennsylvania
Railroads.

The
**MC DONALD
BROILERIZER**

- Twice the flavor—half the time!
- "Done to a turn without turning"!
- Compact—requires little space!

Combination charcoal and electric broiler for meat or fish which broils all sides at once! Features? (1) An adjustable grid (2) Charcoal hearth adjustment (both controlled by handwheels at front) (3) A readily accessible charcoal bin at bottom which swings in and out for refilling. (4) A warming oven at top.

A compact, stainless steel wonder worker, engineered for efficiency, economy! For complete information, write—today—on your company letterhead.



The McDONALD COMPANY

*Designers — Engineers — Manufacturers
Food Service Equipment*

Dept. RA 43 Lansdowne St.

Boston 15, Mass.

203



**Lowers Cost of
Tender and Cab
Washing**

MORE roads are discovering that substantial economies can be brought about in maintenance washing of locomotive tenders and cabs or of Diesel power units by using the **MECHANIZED Oakite FOAM-SPRAY Method** for applying the cleaning solution. Here are the reasons that make **LOWER COST** possible.

50% Less Cleaning Material Is Required
Because the method is **MECHANIZED**, up to 50% less cleaning material is required. A blanket of Oakite Foam-Detergent can be applied to surfaces in **ONE QUARTER** of the time of brush and bucket method. Removal of road film and grime is accomplished in shorter time and with less work. Moreover, a better job is produced. Mechanical Department Supervisors interested in cutting costs of this operation may obtain, without obligation, further and complete data from nearby Oakite Technical Service Representative or by writing us direct.

OAKITE PRODUCTS, INC., 46 Thames Street, NEW YORK 6, N. Y.
In Canada: Oakite Products of Canada, Ltd. 65 Front St. East, Toronto, Ont.



PUNCH-LOK CLAMPS are Your Best Bet

**LOOK! It's punch-locked
for safety**



Here are some suggestions . . .

The Punch-Lok Method is now the standard practice for all shop-hose clamping by the nation's leading railroads. Many railroads have assigned standard stockbook reference numbers to Punch-Lok clamps, fittings and tools.

Diesel locomotive builders use Punch-Lok clamps on original equipment. Railroad Diesel repair shops find Punch-Lok clamps the solution on overhaul repair work on pneumatic control hose for panel, starter, and shutters.

The use of Punch-Lok clamps is permitted by A.A.R. for train line hose on cars in interchange service.

Today Punch-Lok clamps are used extensively for holding the insulation on pressure lubricating lines, steam lines, etc. They make a better job and are easy to apply.

For dozens of miscellaneous service and repair jobs, both in the shops and on rolling stock—it's Punch-Lok clamps.

Write for full information

PUNCH-LOK COMPANY

Dept. K, 321 N. Justine Street

Chicago 7, Ill.

CLASSIFIED DEPARTMENT



CLASSIFIED ADVERTISEMENTS: \$5.00 AN INCH (1" X 1 1/2") PER INSERTION
EMPLOYMENT ADVERTISEMENTS: TEN CENTS A WORD: MINIMUM \$2.00

RAILROAD EQUIPMENT—FOR SALE

STANDARD GAUGE FREIGHT CARS

Box, Single Sheathed, 40 & 50-Ton
Flats, 50 and 70-Ton
Gondolas, Composite, 50 & 70-Ton
Gondola, All-Steel, 90-Ton
Hoppers, Covered, All-Steel, 50 & 70-Ton
Hoppers, Twin, All-Steel, 50-Ton, Cross Dump

Hoppers, Twin, All-Steel, 50-Ton, Side Dump
Hoppers, Triple, All-Steel, 70-Ton, Cross Dump
Ore Hopper, All-Steel, 50-Ton, Center Dump
Tank, 10,000-Gallon, Class III
Tank, 8,000-Gallon, Class II
Caboose, 8-Wheel, with AB Brakes

STANDARD GAUGE DUMP CARS

End Dump, 10-Yd., 30-Ton, Lift Door
End Dump, 20-Yd., 50-Ton, Drop Door
Side Dump, 16-Yd., 40-Ton, Lift Door

Side Dump, 20-Yd., 40-Ton, Lift Door

Side Dump, 30-Yd., 50-Ton, Lift Door

STANDARD GAUGE LOCOMOTIVES

33-Ton, Gasoline

Gasoline—10-Ton to 25-Ton
Diesel-Mechanical—8-Ton to 30-Ton

Gasoline-Electric—35-Ton
Propane-Electric—70-Ton

PASSENGER EQUIPMENT

All types of Passenger & Baggage Equipment, including Self-Propelled!

4 ALL-STEEL DINING CARS, AIR-CONDITIONED

Send us your inquiries

We Buy Freight Cars for Dismantling

Send us your offerings

REPAIR PARTS

For
All Types of
Freight Cars

IRON & STEEL PRODUCTS, INC.

GENERAL OFFICE
13486 S. Brainard Ave., Chicago 33, Illinois
Phone: BAyport 1-3456

NEW YORK OFFICE
50-c Church St., New York 7, N. Y.
Phone: BEekman 3-8230

"ANYTHING" containing IRON or STEEL

STORAGE TANKS

6,000 Gallon
8,000 Gallon
10,000 Gallon

NEW AND USED EQUIPMENT

85# A.S.C.E. Relaying Rail

2500 tons
for immediate delivery from stock

HYMAN-MICHAELS COMPANY
122 SO. MICHIGAN AVE.
CHICAGO 3, ILL.

Service - Quality - Reliability

POSITION WANTED

Young commercial photographer with ten years' experience, and great interest in railroading desires position with a progressive railroad, for the furtherance of good public relations. Quite familiar with railroad practices. Address Box 566, RAILWAY AGE, 30 Church Street, New York 7, N. Y.

Railroad Maintenance Engineer available, graduate civil engineer, 45 years of age, 25 years' experience railroad construction and maintenance. Experience and knowledge of all phases. Prefer midwest railroad or industry closely related to railroad work. Address: Box 569, RAILWAY AGE, 30 Church St., New York 7, N. Y.

Educational Services for

RAILROAD MEN

Our New Service
on
Diesel Locomotive
Operation
is highly recommended
for
Engineers and Firemen

*The Railway
Educational Bureau
Omaha 2, Nebraska*

CLASSIFIED DEPARTMENT

FOR SALE

3—50 KVA. 25 CYCLE, 1 PHASE, H.V. 2300 L.V. 110/220, ALLIS-CHALMERS.
1—75 KVA. 60 CYCLE, 4150/2300, G. E. AUTO TRANS.
3—25 KVA. 25 CYCLE H.V. 2300 — L.V. 110/220, 1 PHASE, MALONEY TRANS.
1—15 KVA. 25 CYCLE, H.V. 1150/2300 L.V. 115/230, 1 PHASE, GENERAL ELEC.
1—7½ KW. 25 CYCLE, H.V. 1100 L.V. 110/220, WESTINGHOUSE
2—1½ KVA. 25 CYCLE, H.V. 550/1100, L.V. 110 1 PHASE, WESTINGHOUSE
3—1½ KVA. 25 CYCLE, H.V. 1100/1905y L.V. 110/220 1 PHASE, WESTINGHOUSE
1—3 KVA. 25 CYCLE, H.V. 1200 L.V. 120/240 1 PHASE, WAGNER TRANS.

1—3 KVA. 25 CYCLE, H.V. 1100 L.V. 110/220 1 PHASE, STOCKWELL
3—650 D.C. MOTORS, 5 H.P.
1—650 D.C. MOTOR, 15 H.P. 1150 RPM—25.5 AMPS.
1—TWIN AIR COMPRESSOR, WESTINGHOUSE AIR BRAKE CO.
TYPE SWA 3-HP, ¾ MAX, PRESSURE 150 LB. DIS-
PLACEMENT 3 CUBIC FEET AT 1425 RPM 2 H.P.
MOTOR VOLTAGE 220, 25 CYCLE.
72—SUSPENSION INSULATORS TYPE B2 LOCKE CO. 5800
17—INSULATORS PIN, TYPE P. 66000V LOCKE CO. 1066
12—IMPEDENCE BONDS—D.C. PROPULSION 1500A-
650V-1 or 4 OHM RES.

ADDRESS PROPOSALS OR INSPECTION REQUESTS TO—
MR. HARRY BABCOCK, GENERAL MANAGER

PENNSYLVANIA-READING SEASHORE LINES

22 FEDERAL STREET

CAMDEN, NEW JERSEY

FOR SALE — DIESEL ENGINES

GENERAL MOTORS 12-567 FAIRBANKS-MORSE 38-D8½
Largest Inventory in the country
INSPECTION INVITED Priced at fraction of original cost.

DIESEL DIVISION

NATIONAL METAL & STEEL CORP.

DEPT. RA, TERMINAL ISLAND (LOS ANGELES HARBOR), CALIF.
PHONE: LOS ANGELES-NEVADA 6-2517

FOR SALE

DIESEL ELECTRIC LOCOMOTIVE
1—G.E. 44-Ton, Heavy Duty Diesel
Electric, Late model.
One—Porter 35 ton Fireless.
1—Plymouth 30 ton Diesel Me-
chaical

AIR DUMP CARS
26—Western 20 yd. Lift Doors.

AIR COMPRESSOR
Chicago Pneumatic PM-4, 3 Stage,
369 CFM Actual @ 100#, 3-60-440,
#43917, Late Model, Like New.
R. H. BOYER, 2005-13 W. Bellevue
Street, Philadelphia 40, Pa.

LOOKING FOR A JOB?

Use The
Classified Department
"Position Wanted"
Column.


Write To:
CLASSIFIED DEPARTMENT
RAILWAY AGE
30 Church St., New York 7, N. Y.

TENDER NOTICE

1. Tenders are invited for the supply of 32 Metre Gauge (3'-3¾") main line express and goods Diesel Electric Locomotives for the Eastern Bengal Railway (Pakistan).
2. Tender documents, including instructions to tenderers, tender form, schedule of requirements, specification and conditions of contract can be obtained from the Office of the Commercial Counsellor, Embassy of Pakistan, 1744 R Street, N.W., Washington, D.C., on payment of \$45.45 per set which amount will not be refunded.
3. Tenders in sealed covers superscribed "Tenders for Metre Gauge (3'-3¾") Diesel Electric Locomotives" should be submitted direct to the Director General of Railways, Ministry of Communications, (Railway Division) Government of Pakistan, Karachi and must reach him by 11 hours of the 27th January, 1951 at which time and date the tenders will be opened in the offices of the Director, Mechanical Engineering & Stores, Railway Division, in the presence of any tenderers who may care to be present.
4. The Government of Pakistan does not bind itself to accept the lowest or any tender and reserves to itself the right to reject any tender without assigning reasons therefor.
2. This call for tenders is being made simultaneously in Karachi and London.

OHIO LOCOMOTIVE CRANES
25 TO 40 TON CAPACITY
GASOLINE • DIESEL
ELECTRIC • STEAM

THE OHIO LOCOMOTIVE CRANE CO.
BUCYRUS, OHIO

**SIDE FRAMES
and BOLSTERS**
FOR FREIGHT CARS

THE OHIO STEEL FOUNDRY CO. — LIMA, OHIO

Advertisers

IN THIS ISSUE

Adams & Westlake Co., The28, 29	Chicago, Burlington & Quincy Railroad 193	Fairbanks, Morse & Co.11 to 14 incl.
Air Reduction Sales Company, (a Division of Air Reduction Company, Inc.) 35	Chicago, Rock Island & Pacific Railroad Company 75	Fenwal Incorporated 44
American Brake Shoe Company, National Bearing Division197	Classified Department205, 206	Fort Worth and Denver City Railway 193
American Brake Shoe Company, Southern Wheel Division40, 41	Colonna, Angelo 30	Frisco Lines 47
American Car and Foundry Company52, 53	Colorado and Southern Railway 193	
American Locomotive Co.67, 72, 73	Columbia Steel Company36, 37	General Electric Company72, 73
American Steel Foundries 15	Combustion Engineering-Superheater, Inc. .. 176	General Steel Castings 171
American Steel & Wire Company36, 37	C-O-Two Fire Equipment Company 185	Georgia-Pacific Plywood & Lumber Co. ..64, 65
Armco Steel Corporation 22		Goodall Fabrics, Inc. 10
Atchison, Topeka and Santa Fe 180	Dearborn Chemical Company 85	Gould-National Batteries, Inc. 99
Atlantic Coast Line Railroad 23	Dearborn Railway Specialty Company 198	Graybar Electric Company, Inc. 181
Automatic Electric Sales Corporation 4	Delaware, Lackawanna & Western Railroad 50	Great Lakes Steel Corporation 43
	Differential Steel Car Company 202	Great Northern Railway 87
Baldwin Locomotive Works, The 83	Dixie Cup Company 81	
Bethlehem Steel Company 3		Heywood-Wakefield68, 69
Boston and Maine Railroad 38	Edison Storage Battery Division of Thomas A. Edison Inc. 88	Houdaille-Hershey Corporation, Houde Engineering Division 46
Boyer, R. H. 206	Edwards Co., Inc., The O. M. 195	Howard & Company, James L. 202
Buckeye Steel Castings Company, The 49	Electric Storage Battery Company, The ..24, 25	Hyatt Bearings Division, General Motors Corporation 174
Budd Company, The91 to 98 incl.	Electro-Motive Division, General Motors CorporationFront Cover, 31 to 34 incl.	Hyman-Michaels Company202, 205
Burlington Lines 193	Erie Railroad Company 191	
	Ex-Cell-O Corporation 199	Illinois Central Railroad 27
Canadian National Railways 26		Illinois Company, The 190
Canadian Pacific 71	Farr Company 42	Illinois Terminal Railroad Company 199
Carnegie-Illinois Steel Corporation36, 37		Iron & Steel Products, Inc. 205
Central of Georgia Railway 86		
Chicago and North Western System 39		

Continued on next page

STEEL in stock at
RYERSON

Thousands of kinds, shapes and sizes of steel are ready for quick shipment from Ryerson to any shop along your line. Call Joseph T. Ryerson & Son, Inc. Plants: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City, Pittsburgh, Los Angeles, San Francisco.

BARs—carbon & alloy, hot rolled & cold finished
STRUCTURALS—channels, angles, beams, etc.

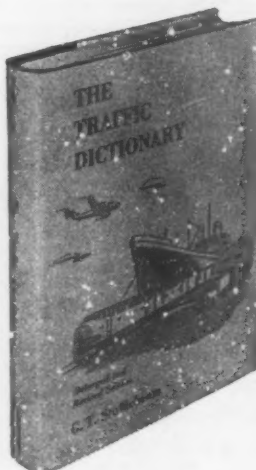
PLATES—sheared & U. M., Inland 4-Way Floor Plate
SHEETS—hot & cold rolled, many types and coatings

TUBING—boiler & mechanical, seamless & welded
STAINLESS—Alloy, heavy plates, sheets, bars, tubes

Johns-Manville	2, 8, 9	Norfolk and Western Railway	66	Smith, Barney & Co.	190
		Northern Pacific Railway	89	Standard Railway Equipment Mfg. Co. ..	190
				Superheater, Inc.—Combustion Engineering ..	176
				Symington-Gould Corporation, The	209
Kansas City Southern Lines	48				
		Oakite Products, Inc.	204	Tennessee Coal, Iron & Railroad	
		Ohio Locomotive Crane Co., The	206	Company	36, 37
		Ohio Steel Foundry Co., The	206	Texas and Pacific Railway	80
Lackawanna Railroad	50			Timken Roller Bearing Co., The ..	Back Cover
Lewis Bolt & Nut Co.	202	Pennsylvania-Reading Seashore Lines	206	Tuco Products Corporation	198
Libby-Owens-Ford Glass Company	62	Pullman Company, The	76		
Lima-Hamilton Corporation	196	Pullman-Standard Car Manufacturing			
Link-Belt Company	74	Company	56, 57		
Luminator, Inc.	77	Punch-Lok Company	204		
		Pyle-National Company, The	20, 21	Union Switch & Signal Co.	6
				United States Envelope Company	186
Magnus Metal Corporation	100			United States Steel Export Company	36, 37
Maine Central Railroad	203	Railroad Supply and Equipment, Inc.	187	United States Steel Supply Company	36, 37
McDonald Company, The	203	Railway Age	200, 201		
Milwaukee Road, The	51	Railway Educational Bureau, The	205		
Minneapolis-Honeywell	194	Railway Steel-Spring Division, American			
Missouri-Kansas-Texas Railroad	16, 17	Locomotive Company	67	Vanadium Corporation of America	55
Missouri Pacific Lines	54	Remington Rand, Inc.	188, 189	Vapor Heating Corporation	45
Mortell Co., J. W.	191	Republic Steel Corporation	198		
Morton Manufacturing Co.	58, 59	Rock Island Lines	75		
		Ryerson & Son, Inc., Joseph T.	207		
National Bearing Division, American Brake					
Shoe Company	197	St. Louis Car Company	79	Wabash Railroad	70
National Lead Company	100	St. Louis-San Francisco Railway	47	Waugh Equipment Company	63
National Malleable and Steel Castings		Santa Fe System Lines	180	Westinghouse Air Brake Co.	172
Company	60, 61	Scullin Steel Co.	192	Whitcomb Locomotive Co., The, Subsidiary	
National Metal & Steel Corp.	206	Seaboard Air Line Railroad	78	of The Baldwin Locomotive Works	83
National Pneumatic Company, Inc.	18, 19	Sherwin-Williams Co., The	184	Willson Products, Inc.	183
National Steel Corporation	43	Silent Hoist & Crane Co.	202		
National Tube Company	36, 37				
New York Central System	178			Yale & Towne Manufacturing Company, The	84
New York, New Haven & Hartford Railroad	90			Youngstown Sheet and Tube Company, The	82

New Fourth Edition.

THE TRAFFIC DICTIONARY



By GEORGE T. STUFFLEBEAM
Manager, Transportation
Research, Remington-Rand

Enlarged and brought up to date this handbook contains 4,000 terms, phrases, code marks and abbreviations used in all branches of transportation. Terms used in warehousing, shipping documents, claim procedure and practice before the I.C.C. are included. Not only traffic managers but anyone concerned with shipping or traffic department work needs a copy of this standard reference.

320 pages, 4½ x 6, \$3.75

SENT ON TEN DAYS' APPROVAL

Simmons-Boardman Publishing Corporation
30 Church Street, New York 7, N. Y.

Please send me a copy of the new edition of Stufflebeam's **TRAFFIC DICTIONARY**, on Ten Days' Approval. If satisfactory I will remit the list price of \$3.75; otherwise I will return the book.

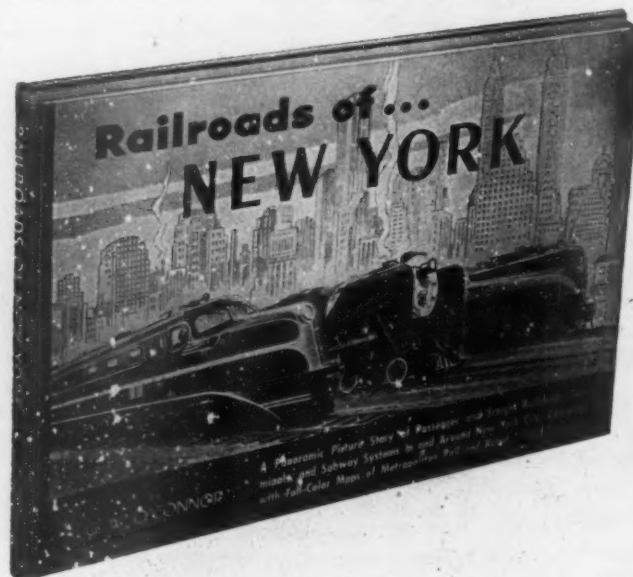
Name

Address

City Zone State

(This offer is limited to retail customers in the United States)

R.A. 10-28-50



This new book is beautifully illustrated with 116 fine 8½ x 5-inch photographs of railroading in and around New York. Authoritative information is given on how this intricate rail network operates. Latest official five-color New York Harbor Terminals and Rapid Transit System maps show all points of interest to railroad men. Ask to see a copy at your local bookstore or send for one on ten days' approval.

144 pages, 116 illus., 2 maps, 10½ x 8, boards, \$4.00

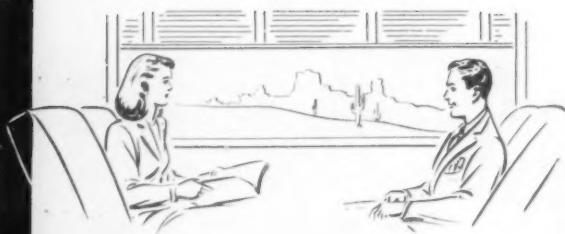
Book Department

SIMMONS-BOARDMAN PUBLISHING CORP.

30 Church Street

New York 7, N. Y.

**for Greater
Passenger Comfort
and Safety**



Symington[®]

**RESILIENT
SIDE BEARINGS**

have the immediate and proven effect of progressively slowing up and stopping car body roll before it can develop excessive side bearing pressure. They prevent truck shimmying or nosing, eliminate side bearing shocks, contribute to longer life of equipment, and add greatly to passenger comfort. Details available in Bulletin No. S-415.



Symington[®]

**TYPE H
TIGHTLOCK COUPLERS**

- Eliminate slack and noise between couplers.
- Provide greater passenger comfort.
- Intercouple with existing standard couplers, materially reducing contour slack.
- Insure positive engagement when coupling at slow speeds.
- Increase safety against accidental uncoupling.
- Reduce fatigue failures.
- Increase service life.

Details available in Circular No. 1245

THE SYMINGTON-GOULD CORPORATION

Works: DEPEW, NEW YORK

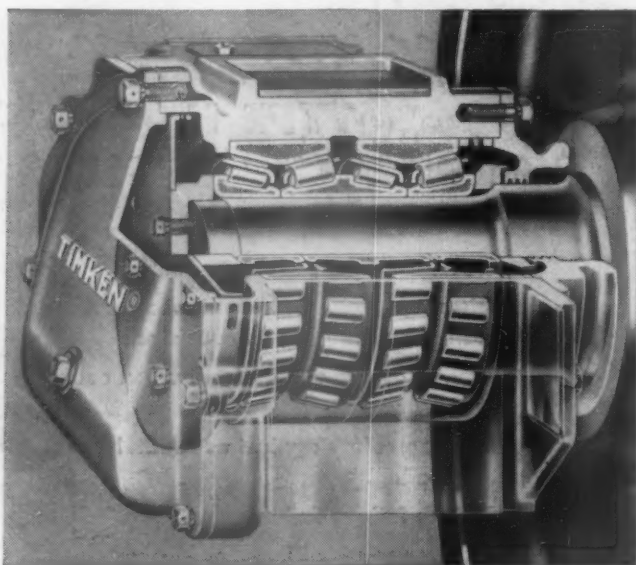
New York • Chicago • St. Louis • Boston • San Francisco • In Canada: ADANAC SUPPLIES, LTD., Montreal, Que.

New, improved TIMKEN® passenger car journal box assembly cuts costs!

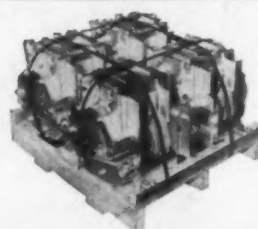
TIMKEN® journal boxes for passenger cars are now made by a new method—forging. This has resulted in manufacturing savings which Timken passes on to you—a savings of 25% in the cost of journal box and bearing assemblies for passenger cars!

Because the new Timken assembly is a *complete unit*, you save on assembly costs too (see photos at right)! This "package" handling method also protects the bearings and other interior parts against dirt and moisture during shipment and installation.

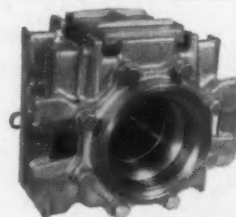
You need not adjust the bearings. They are precision adjusted at the factory. For further details, write to The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".



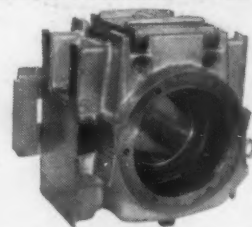
Four complete Timken journal box and bearing assemblies are shipped on one pallet.



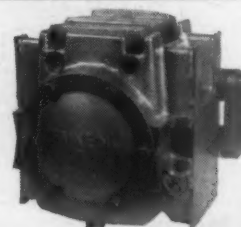
Rear opening of journal box is protected by sheet metal cover against dirt and moisture. Cover is easily removed and expendable.



After removal of front cover of journal box, unit is ready to be pressed on axle.









Front cover is replaced when unit is on axle. Wheel and axle assembly is then ready for trucking.



TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

NOT JUST A BALL  NOT JUST A ROLLER  THE TIMKEN TAPERED ROLLER  BEARING TAKES RADIAL  AND THRUST  LOADS OR ANY COMBINATION 

1911